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SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF BRITISH COLUMBIA 1985-86 SURVEY RESULTS

A REPORT PREPARED BY:

THE SCIENCE, TECHNOLOGY AND
CAPITAL STOCK DIVISION
STATISTICS CANADA

OCTOBER 1986

FOR:

SCIENCE AND TECHNOLOGY DIVISION,
MINISTRY OF INTERNATIONAL TRADE, SCIENCE
AND INVESTMENT - MINISTRY OF
ECONOMIC DEVELOPMENT,
LEGISLATIVE BUILDINGS,
VICTORIA, BRITISH COLUMBIA

FOREWARD

This report results from the tenth annual survey of scientific activities funded by the Government of British Columbia. Data for those ministries with social science activities is collected every second year. This report contains 1985-86 (actual) and 1986-87 (estimate) data for all ministries and agencies for activities in both the national and social sciences.

The survey was conducted the week of May 12th by Rose Krakower of Statistics Canada with the co-operation and assistance of Mr. T.A. Prentice, Director, Science and Technology Division, Ministry of International Trade, Science and Investment, and his staff.

The first surveys of government scientific activities at the provincial level were conducted in the provinces of Ontario, Alberta and Nova Scotia in 1974; Saskatchewan was included in 1975, British Columbia in 1977, New Brunswick in 1984, Manitoba in 1985, and Newfoundland in 1986. Reports for other provinces, similar to this one, are available on request from the provincial department sponsoring the survey. A list of the contacts for the various provinces is available at the end of this report.

Surveys of the scientific activities of provincial governments serve several purposes. They provide an essential data base for analysis and the formulation of provincial science policy. They also provide data for the development of a national aggregate R&D series. These aggregates are not only published by Statistics Canada but are also used to complete the international questionnaires for the Organization for Economic Co-operation and Development (OECD) and the United Nations Education, Science and Culture Organization (UNESCO).

The 1986 survey of provincial government scientific activities has produced reasonable indicators of scientific involvement at the ministry or agency level. This success is largely due to the goodwill and efforts of officials of the responding ministries. The assistance provided by the Ministry of International Trade, Science and Investment is also gratefully acknowledged.

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The following symbols are used in this report:

- nil or zero

-- amount too small to be expressed

NA Figures are not available or not applicable

(r) revised figures

(e) estimated figures

HIGHLIGHTS

During the 1985-86 fiscal year B.C. government expenditures on scientific activities were equal to $69.8 million or 0.7% of estimated 1985-86 budgetary expenditures. While total government expenditures for 1986-87 are estimated to increase by 2.9%, scientific expenditures should rise by 15.2%.

TEXT TABLE I. B.C. Government Expenditures

Ministry or agency	1985-86		1986-87(e)	
	Total estimated expenditures	Total science expenditures	Total estimated expenditures	Total science expenditures
	($ millions)			
Energy, Mines & Petroleum Resources	27.1	3.8	35.3	6.7
Environment	98.3	18.7	101.7	20.4
Forests	269.0	13.2	326.7	14.2
Health(1)	2,667.7	5.5	2,634.5	6.1
Industry & Small Business Development	43.0	4.5	63.1	4.5
International Trade, Science & Investment(2)	26.0	7.6	26.7	9.7
Provincial Secretary & Government Services	72.7	7.1	69.5	7.9
Other	5,741.2	9.4	5,942.5	10.8
**Total	**8,945.0**	**69.8**	**9,200.0**	**80.3**

(1) Includes expenditures of the Health Care Research Foundation.

(2) Includes expenditures of the Science Council of B.C.

TEXT TABLE II. Total Expenditures on Scientific Activities, by Science Type, 1979-80 to 1986-87

Science type	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($millions)							
Natural Sciences	36.4	50.0(1)	49.3	49.2	47.2	43.5	52.0	61.0
Social Sciences (2)	15.7	23.3	23.1	23.9	14.9	15.3	17.8	19.3
Total	**52.1**	**73.3(1)**	**72.4**	**73.1**	**62.1**	**58.8**	**69.8**	**80.3**

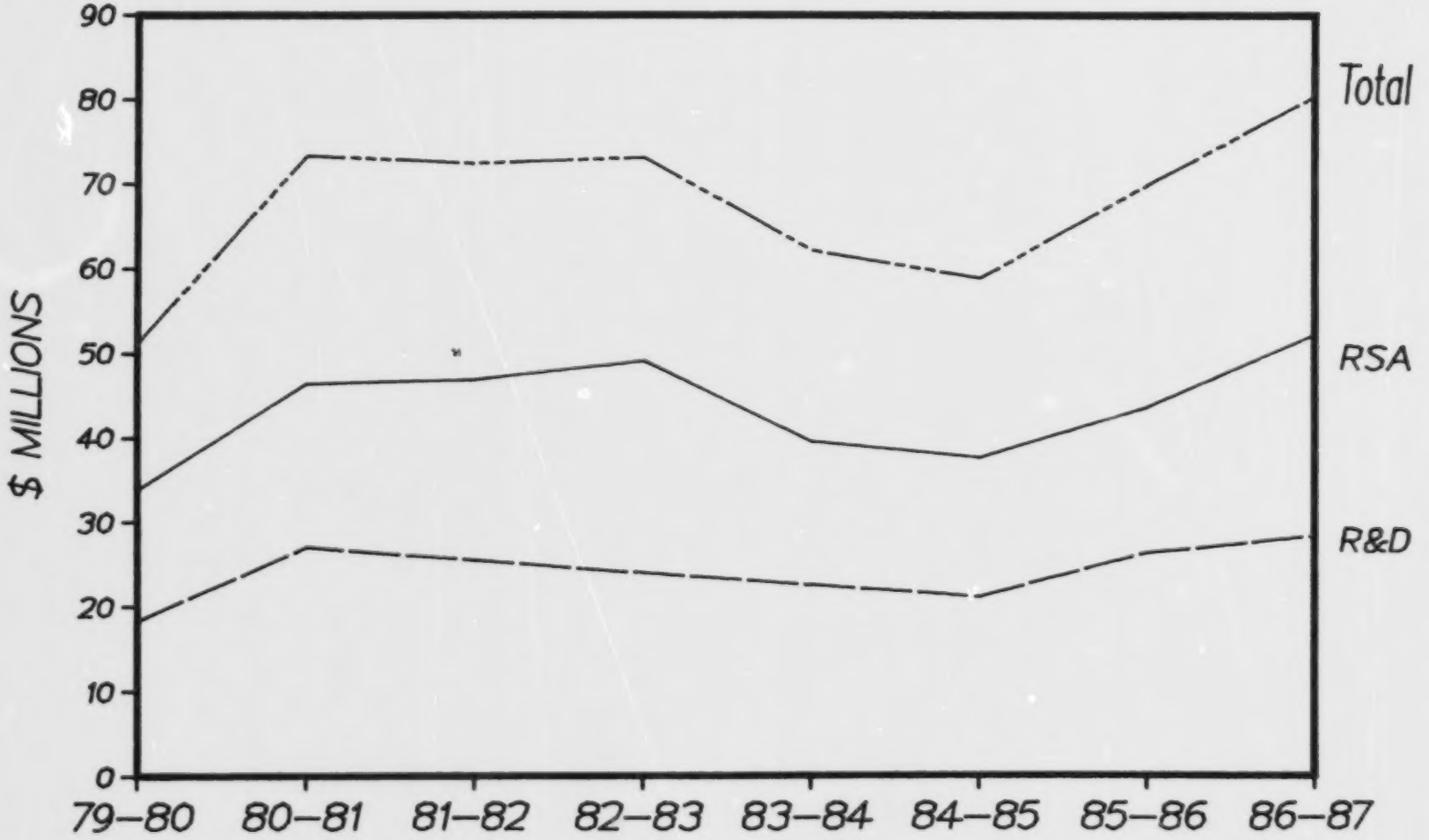
(1) Excludes $2.0 million research equipment grant to the university sector.
(2) Actual data available for odd years only.

Of the total 1985-86 science expenditures, 74.6% ($52.0 million) is for natural science activities. Research and development (R&D) account for $25.5 million (49%) of this amount. The remaining $26.5 million is for related scientific activities. (RSA). Major support of research and development comes from the Ministry of Forests, the Health Care Research Foundation, the Science Council, Ministry of International Trade, Science and Investment and the Ministry of Environment. The technical surveys activity is the major related scientific activity, supported mainly by the Ministry of Environment.

Social Science activities account for 25.4% ($17.8 million) of the total 1985-86 expenditures. The ministries of Industry and Small Business Development and Provincial Secretary and Government Services are the major supporters of social sicence activities, together accounting for 52.4% of the total social science expenditures:

Text
Chart I.

B.C. Government Science Expenditures, 1979–80 To 1985–86



TEXT TABLE III. B.C. Government Expenditures on Science, by Activity and Performer, 1985-86

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($ millions)						
Current expenditures:							
R&D	13.0	2.3	5.1	2.3	0.5	2.4	25.8
RSA	35.2	5.4	0.9	--	0.5	0.5	42.7
Capital expenditures	1.3	NA	NA	NA	NA	NA	1.3
Total	**49.5**	**7.7**	**6.3**	**2.3**	**1.0**	**2.9**	**69.8**

Note: In this report the science expenditures of the B.C. Research Council reflects only the yearly grant from the B.C. government. Additional information on the BCRC is available in **Science Statistics,** Catalogue No 88-001, Vol 10, No 9.

The provincial government itself performed 50% of R&D activities and 82% of related scientific activities in 1985-86. The remainder is performed extramurally. The industry and University sectors are the largest extramural performers, receiving, $7.7 million and $6.3 million respectively.

TEXT TABLE IV. Total Expenditures on Science, by Source of Funds, 1985-86

Ministry or agency	Departmental budget	Transfers from other ministries	Federal government	Other sources	Total
	($000)				
Energy, Mines & Petroleum Resources	3,555	-	275	-	3,830
Environment	17,495	817	100	268	18,680
Forest	11,061	1,517	613	-	13,191
Health(1)	1,925	-	35	3,578	5,538
Industry & Small Business Development	3,631	128	780	-	4,539
International Trade, Science & Investment	2,228	-	1,600	-	3,828
Provincial Secretary & Government Services	6,012	250	144	720	7,126
Other	8,999	3,972	70	-	13,041
Total	**54,906**	**6,684**	**3,617**	**4,566**	**69,773**

(1) Includes Health Care Research Foundation.

The primary source of funds for scientific activities is the provincial departmental budget, which funds over 78% of total science expenditures. Other sources of funds include transfers from the B.C. Lotteries Fund.

Approximately 3% (1,040 FTE) of the total B.C. government employees were devoted to scientific activities in 1985-86. The scientific and professional category is the largest accounting for 42% of the total. The technical category is the largest category devoted to scientific activities in the natural sciences.

TEXT TABLE V. Departmental Personnel Engaged in Scientific Activities, by Science Type and by Category, 1985-86

Science type and activity	Scientific & professional	Technical	Other	Total
	(person-years)			
Natural sciences:				
R&D	118	97	42	257
RSA	155	236	69	460
Total	273	333	111	717
Social sciences:				
R&D	6	2	5	13
RSA	162	48	100	310
Total	168	50	105	323
Total	**441**	**383**	**216**	**1,040**

TEXT TABLE VI. Objectives of B.C. Government Science Expenditures

Objective	1985-86		1986-87(e)	
	$000	%	$000	%
Energy & fuels:				
Fossil fuels	1,329	1.9	1,892	2.4
Other	1,175	1.7	1,179	1.5
Environmental issues:				
Air	3,660	5.3	3,498	4.4
Other	3,723	5.3	3,920	4.9
Health	7,781	11.2	8,069	10.0
Industrial & economic development:				
Agriculture	3,694	5.3	4,234	5.3
Forestry	15,159	21.7	16,376	20.4
Minerals	3,578	5.1	5,844	7.3
Other	4,843	6.9	5,540	6.9
Social development & related areas:				
Culture, sport & recreation	7,367	10.6	8,155	10.1
Education	4,357	6.3	4,524	5.6
Other	2,458	3.5	3,290	4.1
Wildlife	2,532	3.6	2,350	2.9
All other	8,117	11.6	11,420	14.2
Total	**69,773**	**100**	**80,291**	**100**

Slightly more than 46% ($24.2 million) of the money spent in 1985-86 was for Industrial & economic development. The major objective in the social sciences is Social development and related areas. Overall the major objectives of science expenditures are Forestry with $15.2 million, Industrial & economic development (excluding Forestry) with $12.1 million, Health with $7.8 million and Culture, sport and recreation with $7.4 million.

All Sciences

Government of British Columbia

TABLE 1. Total Expenditures in All Sciences, by Activity, 1979-80 to 1986-87

Activity	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Research & development								
Current expenditures:								
In-house	7,082	12,140	12,826	13,029	11,827	11,017	12,615	12,785
Contracts	3,849	2,194	2,149	1,694	1,838	2,849	3,071	3,978
Grants	6,568	11,916	9,308	7,679	7,661	5,910	8,903	9,236
Research fellowships	460	472	859	1,070	1,042	1,218	1,251	1,400
Sub-total	17,959	26,722	25,142	23,472	22,368	20,994	25,840	27,399
Capital expenditures	372	2,296(1)	316	464	195	205	412	916
Related scientific activities								
Current expenditures	32,987	44,725	45,707	48,079	38,765	36,798	42,656	51,011
Capital expenditures	805	1,632	1,226	1,038	754	851	865	965
Total	**52,123**	**75,375**	**72,391**	**73,053**	**62,082**	**58,848**	**69,773**	**80,291**

(1) Includes $2.0 million research equipment grant to B.C. universities.

Government of British Columbia

TABLE 2. Total Expenditures in All Sciences, by Ministry or Agency, 1979-80 to 1986-87

Ministry or Agency	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Agriculture & Food	1,519	1,559	1,785	1,760	1,996	1,717	2,450	2,950
Attorney General	1,015	1,280	1,333	1,369	680	696	487	726
Consumer & Corporate Affairs	469	443	616	562	539	450	439	540
Education	1,727	1,767	1,907	1,897	1,160	900	2,403	2,451
Energy, Mines & Petroleum Resources	3,863	4,493	4,845	4,637	7,214	2,355	3,830	6,701
Environment	15,258	18,290	19,369	20,546	17,581	18,590	18,680	20,393
Finance	115	1,299	2,052	2,277	-	-	52	60
Forests	7,340	13,331	11,170	11,239	9,764	10,561	13,191	14,207
Health	1,757	1,518	1,751	1,780	1,436	1,602	1,960	2,266
Health Care Research Foundation	3,449	3,556	3,033	3,372	3,532	3,611	3,578	3,880
Human Resources	NA	NA	NA	NA	250	316	301	593
Industry & Small Business Development	5,527	11,057	8,240	8,240	5,348	5,348	4,539	4,539
International Trade, Science & Investment	NA	NA	NA	NA	NA	NA	3,828	5,859
Labour	508	564	1,208	1,236	157	157	205	205
Lands, Parks & Housing	385	374	204	546	620	766	NA	NA
Municipal Affairs	497	539	274	351	389	391	510	706
Postsecondary Education	NA	NA	NA	NA	NA	NA	1,883	2,002
Provincial Secretary & Government Services	4,988	5,618	5,897	5,861	5,182	6,220	7,126	7,914
Science Council of B.C.	NA	5,000	5,840	4,209	4,002	3,450	3,800	3,800
Tourism	72	181	261	300	323	393	215	215
Transportation & Highways	320	552	952	1,086	345	425	296	284
Universities, Science & Communications	3,076	3,975	1,657	1,785	1,564	900	NA	NA
Total	**51,885**	**75,375**	**72,391**	**73,053**	**62,082**	**58,848**	**69,773**	**80,291**

Government of British Columbia

TABLE 3. Total Expenditures in All Sciences, by Performer, 1979-80 to 1986-87

Performer	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Intramural	35,633	47,428	49,794	52,684	42,339	43,006	49,530	53,982
Industry	7,606	13,552	10,485	9,697	9,730	5,811	7,678	11,352
Universities	5,637	9,214	6,207	5,321	5,697	5,854	6,309	6,815
Hospitals & health organizations	229	324	173	257	330	202	2,319	1,940
B.C. Research Council(1)	627	1,923	2,005	1,895	1,765	1,168	1,026	2,810
Other	2,391	2,934	3,727	3,199	2,221	2,807	2,911	3,392
Total	**52,123**	**75,375**	**72,391**	**73,053**	**62,082**	**58,848**	**69,773**	**80,291**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 4. Current Expenditures on R&D in All Sciences, by Performer, 1978-79 to 1986-87

Performer	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Intramural	8,022	12,727	13,472	13,563	12,310	11,306	12,964	13,561
Industry	3,422	2,147	2,938	2,299	2,246	2,024	2,274	2,886
Universities	5,512	9,082	6,147	5,270	5,259	5,356	5,447	5,593
Hospitals & health organizations	164	279	124	293	290	162	2,260	1,880
B.C. Research Council(1)	627	1,874	1,494	1,227	1,147	594	515	610
Other	212	613	967	910	1,116	1,552	2,380	2,869
**Total	**17,959**	**26,722**	**25,142**	**23,472**	**22,368**	**20,994**	**25,840**	**27,399**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 5. Current Expenditures on R&D in All Sciences, by Ministry or Agency, 1978-79 to 1986-87

Ministry or Agency	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Agriculture & Food	682	682	931	577	695	345	150	650
Attorney General	235	153	162	173	125	125	54	73
Consumer & Corporate Affairs	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	2,443	1,479	1,370	1,290	1,393	866	953	1,294
Environment	1,865	2,160	2,170	2,214	1,789	1,682	2,037	1,824
Finance	-	-	-	-	-	-	-	-
Forests	4,364	8,846	9,626	9,492	8,515	9,347	11,603	11,987
Health	539	164	137	102	153	160	410	560
Health Care Research Foundation	3,449	3,556	3,033	3,372	3,532	3,611	3,578	3,880
Human Resources	NA	NA	NA	NA	45	58	55	108
Industry & Small Business Development	470	20	-	-	25	25	20	20
International Trade, Science & Investment	NA	NA	NA	NA	NA	NA	2,676	2,675
Labour	-	-	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	5	-	-	NA	NA
Municipal Affairs	-	-	16	22	37	38	-	55
Postsecondary Education	NA	NA	NA	NA	NA	NA	-	-
Provincial Secretary & Government Services	790	870	870	860	1,019	682	443	428
Science Council of B.C.	NA	5,000	5,840	4,209	3,890	3,450	3,800	3,800
Tourism	-	-	-	-	-	-	-	-
Transportation & Highways	52	48	54	48	40	55	61	45
Universities, Science & Communications	3,070	3,744	1,033	1,108	1,110	550	NA	NA
Total	**17,959**	**26,722**	**25,142**	**23,472**	**22,368**	**20,994**	**25,840**	**27,399**

Government of British Columbia

TABLE 6. Ministerial Personnel Engaged in All Scientific Activities, by Activity and by Category, 1979-80 to 1986-87

Activity and Category	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	(person-years)							
Research & development:								
Scientific & professional	136	147	154	166	147	126	124	131
Technical	79	150	154	141	121	112	99	98
Other	59	34	45	42	41	41	47	42
Sub-total	274	331	353	349	309	279	270	271
Related scientific activities:								
Scientific & professional	355	336	365	336	272	262	317	326
Technical	450	479	489	423	345	282	284	292
Other	193	199	215	202	167	154	169	168
Sub-total	998	1,014	1,069	961	784	698	770	786
Total science activities:								
Scientific & professional	491	483	519	502	419	388	441	457
Technical	529	629	643	564	466	394	383	390
Other	252	233	260	244	208	195	216	210
Total	**1,272**	**1,345**	**1,422**	**1,310**	**1,093**	**977**	**1,040**	**1,057**

Government of British Columbia

TABLE 7. Total Expenditures in All Sciences, by Source of Funds, 1985-86

Ministry or Agency	Departmental budget	Transfers from other departments	Transfers from federal government	From Trust Funds	From other sources	Total
	($'000)					
Agriculture & Food	2,450	-	-	-	-	2,450
Attorney General	245	172	70	-	-	487
Consumer & Corporate Affairs	439	-	-	-	-	439
Education	2,403	-	-	-	-	2,403
Energy, Mines & Petroleum Resources	3,555	-	275	-	-	3,830
Environment	17,495	817	100	-	268	18,680
Finance	52	-	-	-	-	52
Forests	11,061	1,517	613	-	-	13,191
Health	1,925	-	35	-	-	1,960
Health Care Research Foundation	-	-	-	-	3,578[1]	3,578
Human Resources	301	-	-	-	-	301
Industry & Small Business Development	3,631	128	780	-	-	4,539
International Trade, Science & Investment	2,228	-	1,600	-	-	3,828
Labour	205	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	510	-	-	-	-	510
Postsecondary Education	1,883	-	-	-	-	1,883
Provincial Secretary & Government Services	6,012	250	144	120	600	7,126
Science Council of B.C.	-	3,800[2]	-	-	-	3,800
Tourism	215	-	-	-	-	215
Transportation & Highways	296	-	-	-	-	296
Total	**54,906**	**6,684**	**3,617**	**120**	**4,446**	**69,773**

[1] Transferred from the B.C. Lotteries Fund.

[2] Transferred from the Ministry of International Trade, Science and Investment.

Government of British Columbia

TABLE 8. Total Expenditures in All Sciences, by Activity and Performer, 1985-86

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research & development							
Current expenditures:							
In-house	12,615	NA	NA	NA	NA	NA	12,615
Contracts	14	619	436	-	15	1,987	3,071
Grants	335	1,441	3,974	2,260	500	393	8,903
Research fellowships	-	214	1,037	-	-	-	1,251
Sub-total	12,964	2,274	5,447	2,260	515	2,380	25,840
Capital expenditures	412	NA	NA	NA	NA	NA	412
Related scientific activities							
Current expenditures	35,289	5,404	862	59	511	531	42,656
Capital expenditures	865	NA	NA	NA	NA	NA	865
Total	**49,530**	**7,678**	**6,309**	**2,319**	**1,026**	**2,911**	**69,773**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 9. Total Expenditures in All Sciences, by Ministry or Agency and Performer, 1985-86

Ministry or Agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Agriculture & Food	2,300	-	150	-	-	-	2,450
Attorney General	324	139	-	-	-	24	487
Consumer & Corporate Affairs	439	-	-	-	-	-	439
Education	1,057	1,346	-	-	-	-	2,403
Energy, Mines & Petroleum Resources	3,395	404	8	-	-	23	3,830
Environment	16,568	1,697	128	-	10	277	18,680
Finance	-	-	-	-	-	52	52
Forests	10,849	384	316	-	5	1,637	13,191
Health	1,595	-	277	59	-	29	1,960
Health Care Research Foundation	179	-	3,139	260	-	-	3,578
Human Resources	301	-	-	-	-	-	301
Industry & Small Business Development	3,595	909	35	-	-	-	4,539
International Trade, Science & Investment	164	176	488	2,000	1,000	-	3,828
Labour	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	414	96	-	-	-	-	510
Postsecondary Education	1,064	808	-	-	11	-	1,883
Provincial Secretary & Government Services	6,511	5	50	-	-	560	7,126
Science Council of B.C.	500	1,479	1,718	-	-	303	3,800
Tourism	98	117	-	-	-	-	215
Transportation & Highways	172	118	-	-	-	6	296
Total	**49,530**	**7,678**	**6,309**	**2,319**	**1,026**	**2,911**	**69,773**

(1) Includes only annual funding by Provincial Government

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TABLE 10. Current Expenditures in All Sciences, by Ministry or Agency and Activity, 1985-86

	Research & development	Related scientific activities	Total
	($000)		
Agriculture & Food	150	2,300	2,450
Attorney General	54	433	487
Consumer & Corporate Affairs	-	439	439
Education	-	2,403	2,403
Energy, Mines & Petroleum Resources	953	2,811	3,764
Environment	2,037	16,345	18,382
Finance	-	52	52
Forests	11,603	1,205	12,808
Health	410	1,550	1,960
Health Care Research Foundation	3,578	-	3,578
Human Resources	55	246	301
Industry & Small Business Development	20	4,142	4,162
International Trade, Science & Investment	2,676	1,152	3,828
Labour	-	205	205
Lands, Parks & Housing	NA	NA	NA
Municipal Affairs	-	461	461
Postsecondary Education	-	1,883	1,883
Provincial Secretary & Government Services	443	6,579	7,022
Science Council of B.C.	3,800	-	3,800
Tourism	-	215	215
Transportation & Highways	61	235	296
Total	**25,840**	**42,656**	**68,496**

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TABLE 11. Current Expenditures on R&D in All Sciences, by Ministry or Agency and Performer, 1985-86

Ministry or Agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council[1]	Other	Total
	($'000)						
Agriculture & Food	-	-	150	-	-	-	150
Attorney General	34	20	-	-	-	-	54
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	925	20	8	-	-	-	953
Environment	1,609	190	71	-	10	157	2,037
Finance	-	-	-	-	-	-	-
Forests	9,268	394	311	-	5	1,635	11,603
Health	410	-	-	-	-	-	410
Health Care Research Foundation	179	-	3,129	269	-	-	3,578
Human Resources	55	-	-	-	-	-	55
Industry and Small Business Development	20	-	-	-	-	-	20
International Trade, Science & Investment	-	176	-	2,000	500	-	2,676
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	114	-	50	-	-	279	443
Science Council of B.C.	300	1,479	1,718	-	-	303	3,800
Tourism	-	-	-	-	-	-	-
Transportation & Highways	50	5	-	-	-	6	61
Total	**12,964**	**2,274**	**5,447**	**2,260**	**515**	**2,380**	**25,840**

[1] Includes only annual funding by Provincial Government

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TABLE 12. Detail of Intramural Expenditures in All Sciences, by Ministry or Agency and Expenditure, 1985-86

Ministry or Agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	($'000)			
Agriculture & Food	1,560	740	-	2,300
Attorney General	279	45	-	324
Consumer & Corporate Affairs	424	15	-	439
Education	846	211	-	1,057
Energy, Mines & Petroleum Resources	2,527	802	67	3,395
Environment	10,454	5,816	298	16,568
Finance	-	-	-	-
Forests	7,577	2,889	383	10,849
Health	1,235	360	-	1,595
Health Care Research Foundation	-	179	-	179
Human Resources	246	55	-	301
Industry & Small Business Development	2,427	791	377	3,595
International Trade, Science & Investment	153	11	-	164
Labour	205	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA
Municipal Affairs	308	57	49	414
Postsecondary Education	959	105	-	1,064
Provincial Secretary & Government Services	4,261	2,146	104	6,511
Science Council of B.C.	209	91	-	300
Tourism	98	-	-	98
Transportation & Highways	172	-	-	172
Total	**33,940**	**14,313**	**1,277**	**49,530**

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TABLE 13. Ministerial Personnel Engaged in Scientific Activities in All Sciences, by Ministry or Agency, 1985-86

Ministry or Agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Agriculture & Food	-	-	-	-	34	8	7	49
Attorney General	1	-	-	1	4	-	2	6
Consumer & Corporate Affairs	-	-	-	-	-	9	5	14
Education	-	-	-	-	20	-	5	25
Energy, Mines & Petroleum Resources	9	-	1	10	35	12	13	60
Environment	23	20	6	49	67	167	45	279
Finance	-	-	-	-	-	-	-	-
Forests	79	76	31	186	5	24	-	29
Health	4	-	6	10	9	2	19	30
Health Care Research Foundation	-	-	-	-	-	-	-	-
Human Resources	1	1	-	2	1	6	-	7
Industry & Small Business Development	1	-	-	1	56	4	28	88
International Trade, Science & Investment	-	-	-	-	4	-	1	5
Labour	-	-	-	-	3	-	4	7
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	6	-	2	8
Postsecondary Education	-	-	-	-	18	-	10	28
Provincial Secretary & Government Services	2	1	-	3	50	51	27	128
Science Council of B.C.	4	-	3	7	-	-	-	-
Tourism	-	-	-	-	3	-	1	4
Transportation & Highways	-	1	-	1	2	1	-	3
Total	**124**	**99**	**47**	**270**	**317**	**284**	**169**	**770**

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TABLE 14. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1985-86

Ministry or Agency	Advancement of science	Communications	Energy & fuels				
			Conservation	Fossil fuels	Hydro electric energy	Renewable resources	Other
	($ 000)						
Agriculture & Food	-	-	-	-	-	-	-
Attorney General	-	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	895	-	-	-
Environment	200	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Forests	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-
Industry & Small Business Development	20	99	-	273	89	36	-
International Trade, Science & Investment	164	-	-	-	-	-	-
Labour	-	-	-	-	-	-	1,000
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	5	-	-	-	-	-	-
Science Council of B.C.	-	972	-	161	-	22	28
Tourism	-	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-	-
Total	**389**	**1,061**	**-**	**1,329**	**89**	**58**	**1,028**

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TABLE 14. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1985-86 - Continued

Ministry or Agency	Environmental issues				Health
	Air	Land	Water	Other	
	($ 000)				
Agriculture & Food	-	-	-	-	-
Attorney General	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-
Education	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment	3,660	749	2,732	171	100
Finance	-	-	-	-	-
Forests	-	-	-	-	-
Health	-	-	-	-	1,960
Health Care Research Foundation	-	-	-	-	3,578
Human Resources	-	-	-	-	-
Industry & Small Business Development	-	-	-	71	143
International Trade, Science & Investment	-	-	-	-	2,000
Labour	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-
Postsecondary Education	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.	-	-	-	-	-
Tourism	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**3,660**	**749**	**2,732**	**242**	**7,781**

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TABLE 14. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1985-86 - Continued

Ministry or Agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Agriculture & Food	2,450	-	-	-	-	-
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	2,935	-
Environment	712	1,[illegible]95	579	-	-	7
Finance	-	-	-	-	-	52
Forests	-	-	12,976	-	-	215
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry & Small Business Development	179	143	725	1,130	405	475
International Trade, Science & Investment	-	-	-	176	-	488
Labour	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	353	334	879	565	238	163
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**3,694**	**1,572**	**15,159**	**1,871**	**3,578**	**1,400**

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TABLE 14. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1985-86 - Concluded

Ministry or Agency	Social development & related areas					Transportation	Wildlife	Other	Total
	Culture, sport & recreation	Education	Human resources	Urban & regional studies	Other				
	($'000)								
Agriculture & Food	-	-	-	-	-	-	-	-	2,450
Attorney General	-	-	-	-	487	-	-	-	487
Consumer & Corporate Affairs	-	-	-	-	439	-	-	-	439
Education	-	2,403	-	-	-	-	-	-	2,403
Energy, Mines & Petroleum Resources	-	-	-	-	-	-	-	-	3,830
Environment	-	-	-	-	-	-	2,532	6,143	18,680
Finance	-	-	-	-	-	-	-	-	52
Forests	-	-	-	-	-	-	-	-	13,191
Health	-	-	-	-	-	-	-	-	1,960
Health Care Research Foundation	-	-	-	-	-	-	-	-	3,578
Human Resources	-	-	301	-	-	-	-	-	301
Industry & Small Business Development	36	71	36	475	-	107	-	36	4,539
International Trade, Science & Investment	-	-	-	-	-	-	-	-	3,828
Labour	-	-	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	510	-	-	-	-	510
Postsecondary Education	-	1,883	-	-	-	-	-	-	1,883
Provincial Secretary & Government Services	7,116	-	-	5	-	-	-	-	7,126
Science Council of B.C.	-	-	-	-	-	85	-	-	3,800
Tourism	215	-	-	-	-	-	-	-	215
Transportation & Highways	-	-	-	-	-	296	-	-	296
Total	**7,367**	**4,357**	**542**	**990**	**926**	**488**	**2,532**	**6,179**	**69,773**

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TABLE 15. Objectives of Expenditures in All Sciences, by Objective and Activity, 1985-86

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of Science	20	369	-	-	389
Communications	77	89	895	-	1,061
Energy & fuels:					
Fossil fuels	13	1,054	148	114	1,329
Hydro electric energy	-	89	-	-	89
Renewable resources	2	36	20	-	58
Other	2	-	526	500	1,028
Environmental issues:					
Air	186	3,335	47	92	3,660
Land	14	617	18	100	749
Water	230	2,489	-	13	2,732
Other	38	165	39	-	242
Health	589	1,428	5,399	365	7,781
Industrial & economic development:					
Agriculture	48	3,160	475	11	3,694
Fisheries	576	471	446	79	1,572
Forestry	9,644	1,835	2,942	738	15,159
Manufacturing	45	894	696	236	1,871
Minerals	993	1,903	248	434	3,578
Other	18	286	353	743	1,400
Social development & related areas:					
Culture, sport & recreation	114	6,521	329	403	7,367
Education	-	2,192	-	2,165	4,357
Human resources	55	487	-	-	542
Urban & regional studies	-	705	-	285	990
Other	34	729	20	143	926
Transportation	57	229	89	113	488
Wildlife	561	1,888	83	-	2,532
Other	60	5,183	103	833	6,179
Total	**13,376**	**36,154**	**12,876**	**7,367**	**69,773**

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TABLE 16. Total Expenditures in All Sciences, by Activity and Performer, 1986-87(*)

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research & development							
Current expenditures:							
In-house	12,785	NA	NA	NA	NA	NA	12,785
Contracts	326	891	172	-	10	2,579	3,978
Grants	450	1,795	4,221	1,880	600	290	9,236
Research fellowships	-	200	1,200	-	-	-	1,400
Sub-total	13,561	2,886	5,593	1,880	610	2,869	27,399
Capital expenditures	916	NA	NA	NA	NA	NA	916
Related scientific activities							
Current expenditures	38,540	8,466	1,222	60	2,200	523	51,011
Capital expenditures	965	NA	NA	NA	NA	NA	965
Total	**53,982**	**11,352**	**6,815**	**1,940**	**2,810**	**3,392**	**80,291**

(1) Includes only annual funding by Provincial Government.

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TABLE 17. Total Expenditures in All Sciences, by Ministry or Agency and Performer, 1986-87

Ministry or Agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council (1)	Other	Total
	($'000)						
Agriculture & Food	2,300	500	150	-	-	-	2,950
Attorney General	419	283	-	-	-	24	726
Consumer & Corporate Affairs	540	-	-	-	-	-	540
Education	1,078	1,373	-	-	-	-	2,451
Energy, Mines & Petroleum Resources	5,330	1,276	82	-	-	13	6,701
Environment	16,640	3,392	118	-	-	243	20,393
Finance	-	-	-	-	-	60	60
Forests	11,611	300	60	-	10	2,226	14,207
Health	1,876	-	300	60	-	30	2,266
Health Care Research Foundation	180	-	3,500	200	-	-	3,880
Human Resources	593	-	-	-	-	-	593
Industry & Small Business Development	3,595	909	35	-	-	-	4,539
International Trade, Science & Investment	164	495	820	1,680	2,700	-	5,859
Labour	205	-	-	-	-	-	205
Municipal Affairs	429	277	-	-	-	-	706
Postsecondary Education	1,155	811	-	-	-	36	2,002
Provincial Secretary & Government Services	7,304	-	50	-	-	560	7,914
Science Council of B.C.	300	1,500	1,700	-	100	200	3,800
Tourism	98	117	-	-	-	-	215
Transportation & Highways	165	119	-	-	-	-	284
Total	**53,982**	**11,352**	**6,815**	**1,940**	**2,810**	**3,392**	**80,291**

(1) Includes only annual funding by Provincial Government

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TABLE 18. Current Expenditures in All Sciences, by Ministry or Agency and Activity, 1986-87

	Research & development	Related scientific activities	Total
	($000)		
Agriculture & Food	650	2,300	2,950
Attorney General	73	653	726
Consumer & Corporate Affairs	-	540	540
Education	-	2,451	2,451
Energy, Mines & Petroleum Resources	1,294	5,007	6,301
Environment	1,824	18,345	20,169
Finance	-	60	60
Forests	11,987	1,380	13,367
Health	560	1,706	2,266
Health Care Research Foundation	3,880	-	3,880
Human Resources	108	485	593
Industry & Small Business Development	20	4,142	4,162
International Trade, Science & Investment	2,675	3,184	5,859
Labour	-	205	205
Municipal Affairs	55	611	666
Postsecondary Education	-	2,002	2,002
Provincial Secretary & Government Services	428	7,486	7,914
Science Council of B.C.	3,800	-	3,800
Tourism	-	215	215
Transportation & Highways	45	239	284
Total	**27,399**	**51,011**	**78,410**

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TABLE 19. Current Expenditures on R&D in All Sciences, by Ministry or Agency and Performer, 1986-87(*)

Ministry or Agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Agriculture & Food	-	500	150	-	-	-	650
Attorney General	53	20	-	-	-	-	73
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	1,212	-	82	-	-	-	1,294
Environment	1,546	53	61	-	-	164	1,824
Finance	-	-	-	-	-	-	-
Forests	9,401	300	50	-	10	2,226	11,987
Health	560	-	-	-	-	-	560
Health Care Research Foundation	180	-	3,500	200	-	-	3,880
Human Resources	108	-	-	-	-	-	108
Industry & Small Business Development	20	-	-	-	-	-	20
International Trade, Science & Investment	-	495	-	1,680	500	-	2,675
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	37	18	-	-	-	-	55
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	99	-	50	-	-	279	428
Science Council of B.C.	300	1,500	1,700	-	100	200	3,800
Tourism	-	-	-	-	-	-	-
Transportation & Highways	45	-	-	-	-	-	45
Total	**13,561**	**2,886**	**5,593**	**1,880**	**610**	**2,869**	**27,399**

(1) Includes only annual funding by Provincial Government.

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TABLE 20. Ministerial Personnel Engaged in All Sciences, by Ministry or Agency, 1986-87(*)

Ministry or Agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Agriculture & Food	-	-	-	-	34	8	7	49
Attorney General	1	-	-	1	6	-	3	9
Consumer & Corporate Affairs	-	-	-	-	-	11	5	16
Education	-	-	-	-	20	-	5	25
Energy, Mines & Petroleum Resources	14	-	-	14	40	13	10	63
Environment	22	19	6	47	66	169	45	280
Finance	-	-	-	-	-	-	-	-
Forests	79	75	31	185	5	25	-	30
Health	8	-	1	9	11	4	18	33
Health Care Research Foundation	-	-	-	-	-	-	-	-
Human Resources	1	2	-	3	1	6	-	7
Industry & Small Business Development	1	-	-	1	56	4	28	88
International Trade, Science & Investment	-	-	-	-	4	-	1	5
Labour	-	-	-	-	3	-	4	7
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	6	-	2	8
Postsecondary Education	-	-	-	-	18	-	10	28
Provincial Secretary & Government Services	1	1	-	2	51	51	29	131
Science Council of B.C.	4	-	4	8	-	-	-	-
Tourism	-	-	-	-	3	-	1	4
Transportation & Highways	-	1	-	1	2	1	-	3
Total	**131**	**98**	**42**	**271**	**326**	**292**	**168**	**786**

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TABLE 21. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1986-87(e)

Ministry or Agency	Advancement of science	Communications	Energy & fuels				
			Conservation	Fossil fuels	Hydro electric energy	Renewable resources	Other
	($'000)						
Agriculture & Food	-	-	-	-	-	-	-
Attorney General	-	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	1,510	-	-	-
Environment	200	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Forests	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-
Industry & Small Business Development	20	99	-	273	89	36	-
International Trade, Science & Investment	1,964(1)	-	-	-	-	-	1,000
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	5	-	-	-	-	-	-
Science Council of B.C.	-	977	27	109	-	27	-
Tourism	-	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-	-
Total	**2,089**	**1,066**	**27**	**1,892**	**89**	**63**	**1,000**

(1) Includes grant to Applied Systems Institute

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TABLE 21. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1986-87(e) - Continued

Ministry or Agency	Environmental Issues				Health
	Air	Land	Water	Other	
	($'000)				
Agriculture & Food	-	-	-	-	-
Attorney General	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	
Education	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment	3,498	878	2,792	179	100
Finance	-	-	-	-	-
Forests	-	-	-	-	-
Health	-	-	-	-	2,266
Health Care Research Foundation	-	-	-	-	3,980
Human Resources	-	-	-	-	-
Industry & Small Business Development	-	-	-	71	143
International Trade, Science & Investment	-	-	-	-	1,690
Labour	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	NA
Municipal Affairs	-	-	-	-	-
Postsecondary Education	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.					
Tourism	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**3,498**	**878**	**2,792**	**250**	**8,069**

Government of British Columbia

TABLE 21. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1986-87(*) - Continued

Ministry or Agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
Agriculture & Food	2,950	-	-	-	-	-
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	5,191	-
Environment	671	1,105	786	-	30	16
Finance	-	-	-	-	-	60
Forests	-	-	12,997	-	-	210
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry & Small Business Development	179	147	725	1,130	405	475
International Trade, Science & Investment	-	-	-	495	-	820
Labour	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	434	434	868	543	218	109
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**4,234**	**1,682**	**16,376**	**2,168**	**5,844**	**1,690**

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TABLE 21. Objectives of Expenditures in All Sciences, by Ministry or Agency, 1986-87(*)

Ministry or Agency	Social development & related areas					Transportation	Wildlife	Other	Total
	Culture, sport & recreation	Education	Human Resources	Urban & regional studies	Other				
	($'000)								
Agriculture & Food	-	-	-	-	-	-	-	-	2,950
Attorney General	-	-	-	-	726	-	-	-	726
Consumer & Corporate Affairs	-	-	-	-	540	-	-	-	540
Education	-	2,451	-	-	-	-	-	-	2,451
Energy, Mines & Petroleum Resources	-	-	-	-	-	-	-	-	6,701
Environment	-	-	-	4	-	-	2,350	7,784	20,393
Finance	-	-	-	-	-	-	-	-	60
Forests	-	-	-	-	-	-	-	-	14,207
Health	-	-	-	-	-	-	-	-	2,266
Health Care Research Foundation	-	-	-	-	-	-	-	-	3,880
Human Resources	-	-	593	-	-	-	-	-	593
Industry & Small Business Development	36	71	36	475	-	107	-	36	4,539
International Trade, Science & Investment	-	-	-	-	-	-	-	-	5,859
Labour	-	-	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	706	-	-	-	-	706
Postsecondary Education	-	2,002	-	-	-	-	-	-	2,002
Provincial Secretary & Government Services	7,904	-	-	5	-	-	-	-	7,914
Science Council of B.C.	-	-	-	-	-	54	-	-	3,809
Tourism	215	-	-	-	-	-	-	-	215
Transportation & Highways	-	-	-	-	-	284	-	-	284
Total	**8,155**	**4,524**	**834**	**1,190**	**1,266**	**445**	**2,350**	**7,820**	**80,291**

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TABLE 22. Objectives of Expenditures in All Sciences, by Objective and Activity, 1986-87(e)

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($ 000)				
Advancement of Science	20	369	-	1,700	2,089
Communications	77	89	900	-	1,066
Energy & fuels:					
Conservation	2	-	25	-	27
Fossil fuels	9	1,049	100	734	1,892
Hydro electric energy	-	89	-	-	89
Renewable resources	2	36	25	-	63
Other	-	-	500	500	1,000
Environmental issues:					
Air	191	3,168	47	92	3,498
Land	34	575	28	241	878
Water	166	2,500	10	116	2,792
Other	5	220	10	-	250
Health	740	1,559	5,380	390	8,069
Industrial & economic development:					
Agriculture	44	3,139	1,050	1	4,234
Fisheries	584	491	538	79	1,692
Forestry	10,300	1,947	3,192	937	16,376
Manufacturing	43	894	995	236	2,168
Minerals	1,300	3,556	292	696	5,844
Other	15	286	294	1,095	1,690
Social development & related areas:					
Culture, sport & recreation	99	7,329	329	398	8,155
Education	-	2,304	-	2,220	4,524
Human resources	108	726	-	-	834
Urban & regional studies	41	683	18	448	1,190
Other	53	906	20	287	1,266
Transportation	49	227	50	119	445
Wildlife	520	1,795	35	-	2,350
Other	60	5,578	-	2,182	7,820
Total	**14,477**	**39,505**	**13,838**	**12,471**	**80,291**

Natural Sciences

Government of British Columbia

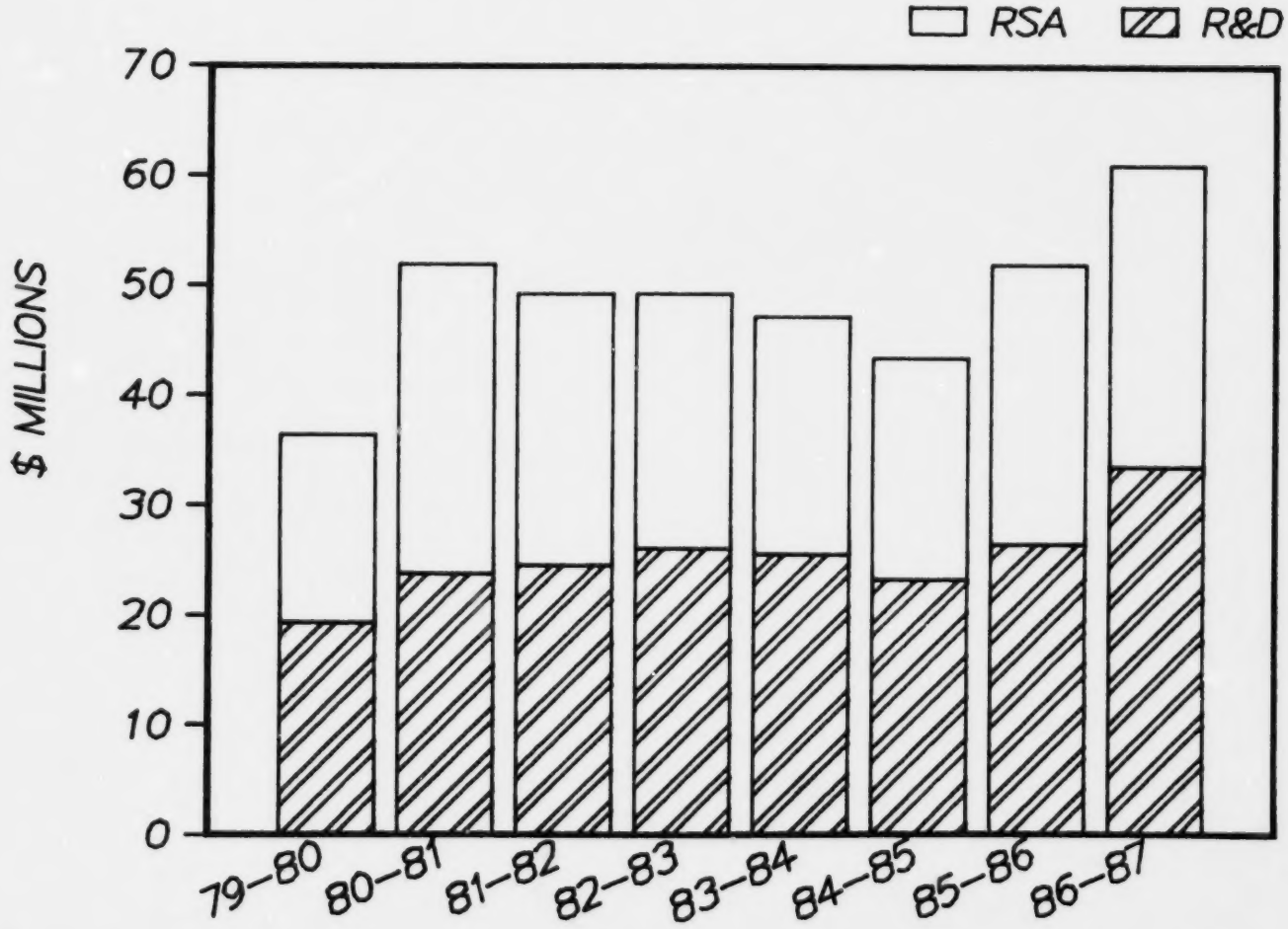
TABLE 23. Total Expenditures in the Natural Sciences, by Activity, 1979-80 to 1986-87

Activity	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Research & development:								
In-house	5,988	11,427	12,096	12,297	11,197	10,334	12,207	12,338
Contracts	3,766	2,184	2,139	1,684	1,557	2,594	2,806	3,681
Grants	6,538	11,895	9,288	7,679	7,591	5,830	8,813	9,146
Research fellowships	460	472	859	1,070	1,042	1,218	1,251	1,400
Sub-total	16,752	25,978	24,382	22,730	21,387	19,976	25,077	26,565
Related scientific activities:								
Education support	179	243	233	166	172	40	55	60
Technical surveys	12,837	14,836	15,689	16,989	15,437	16,803	17,782	21,510
Information services	1,763	2,404	2,685	3,441	3,058	2,267	3,832	4,210
Special services & studies	2,984	4,417	4,434	4,181	6,228	2,279	2,322	4,672
Museum services	977	1,093	1,015	891	517	1,643	2,205	2,501
Sub-total	18,740	22,989	24,056	25,668	25,412	23,032	26,196	32,953
Capital expenditures:								
Research & development	357	2,276(1)	296	444	193	204	412	912
Related scientific activities	523	766	535	383	170	291	335	552
Sub-total	880	3,042	831	827	363	495	747	1,364
Total	**36,372**	**52,009**	**49,269**	**49,225**	**47,162**	**43,503**	**52,020**	**60,982**

(1) Includes $2.0 million research equipment grant to B.C. universities.

Chart 1. Government of British Columbia

Total Expenditures in the Natural Sciences, by Activity, 1979–80 to 1986–87



Government of British Columbia

TABLE 24. Total Expenditures in the Natural Sciences, by Ministry or Agency, 1979-80 to 1986-87

Ministry or agency	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Agriculture & Food	1,519	1,558	1,785	1,760	1,996	1,717	2,450	2,950
Energy, Mines & Petroleum Resources	3,863	4,493	4,845	4,637	7,214	2,355	3,830	6,701
Environment	14,886	18,280	19,304	20,456	17,546	18,577	18,680	20,393
Forests	7,318	13,240	10,937	11,097	9,764	10,561	13,191	14,207
Health	83	43	65	25	146	85	245	450
Health Care Research Foundation	3,449	3,556	3,033	3,372	3,532	3,611	3,578	3,880
Industry & Small Business Development	420	-	-	-	-	-	-	-
International Trade, Science & Investment	NA	NA	NA	NA	NA	NA	3,705	5,736
Lands, Parks & Housing	76	104	12	321	298	362	NA	NA
Provincial Secretary & Government Services	1,480	1,640	1,640	1,390	950	1,710	2,366	2,700
Science Council of B.C.	NA	5,000	5,840	4,209	4,002	3,450	3,800	3,800
Transportation & Highways	202	120	151	173	150	175	175	165
Universities, Science & Communications	3,076	3,975	1,657	1,785	1,564	900	NA	NA
Total	**36,372**	**52,009**	**49,269**	**49,225**	**47,162**	**43,503**	**52,020**	**60,982**

Government of British Columbia

TABLE 25. Total Expenditures in the Natural Sciences, by Performer, 1979-80 to 1986-87

Performer	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Intramural	25,092	33,999	33,572	35,825	31,174	31,525	36,413	39,717
Industry	4,340	5,421	6,066	5,045	7,836	3,989	4,145	7,463
Universities	5,517	9,129	6,138	5,270	5,204	5,306	5,947	6,430
Hospitals & health organizations	164	279	124	203	290	162	2,260	1,880
B.C. Research Council	627	1,874	1,914	1,789	1,586	944	1,015	2,810
Other	632	1,307	1,495	1,093	1,072	1,577	2,240	2,682
Total	**36,372**	**52,009**	**49,269**	**49,225**	**47,162**	**43,503**	**52,020**	**60,982**

Government of British Columbia

TABLE 26. Current Expenditures on R&D in the Natural Sciences, by Performer, 1979-80 to 1986-87

Performer	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	($'000)							
Intramural	6,918	12,004	12,732	12,821	11,670	10,613	12,556	13,094
Industry	3,366	2,147	2,938	2,299	2,238	2,016	2,254	2,848
Universities	5,492	9,061	6,127	5,270	5,204	5,303	5,397	5,543
Hospitals & health organizations	164	279	124	203	290	162	2,260	1,880
B.C. Research Council	627	1,874	1,494	1,227	1,147	594	515	610
Other	195	613	967	910	838	1,288	2,095	2,590
Total	**16,752**	**25,978**	**24,382**	**22,730**	**21,387**	**19,976**	**25,077**	**26,565**

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TABLE 27. Current Expenditures on R&D in the Natural Sciences, by Ministry or Agency, 1979-80 to 1986-87

Ministry or agency	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	$('000)							
Agriculture & Food	682	692	831	577	695	345	150	650
Energy, Mines & Petroleum Resources	2,387	1,479	1,370	1,290	1,393	866	953	1,294
Environment	1,865	2,160	2,170	2,214	1,789	1,682	2,037	1,824
Forests	4,364	8,846	9,626	9,492	8,515	9,347	11,603	11,987
Health	83	43	5	5	103	70	225	410
Health Care Research Foundation	3,440	3,556	3,033	3,372	3,532	3,611	3,578	3,889
Industry & Small Business Development	420	-	-	-	-	-	-	-
International Trade, Science & Investment	NA	NA	NA	NA	NA	NA	2,676	2,675
Lands, Parks & Housing	-	-	-	5	-	-	NA	NA
Provincial Secretary & Government Services	780	420	420	410	320	-	-	-
Science Council of B.C.	NA	5,000	5,846	4,209	3,890	3,450	3,800	3,800
Transportation & Highways	52	48	54	48	40	55	55	45
Universities, Science & Communications	3,070	3,744	1,033	1,108	1,119	550	NA	NA
Total	**16,752**	**25,978**	**24,382**	**22,730**	**21,387**	**19,976**	**25,077**	**26,565**

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TABLE 28. Ministerial Personnel Engaged in Scientific Activities in the Natural Sciences, by Activity and Category, 1979-80 to 1986-87

Activity and category	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87(e)
	(person-years)							
Research & development:								
Scientific & professional	110	132	134	147	135	114	118	125
Technical	71	144	148	135	115	106	97	95
Other	47	30	42	40	40	40	42	42
Sub-total	228	306	324	322	290	260	257	262
Related scientific activities:								
Scientific & professional	187	144	162	143	138	132	155	161
Technical	365	399	419	346	306	243	236	240
Other	93	81	94	82	89	71	69	68
Sub-total	645	624	656	571	524	446	460	469
Total natural science activities:								
Scientific & professional	297	276	296	290	273	246	273	286
Technical	436	543	559	481	421	349	333	335
Other	140	111	126	122	129	111	111	110
Total	**873**	**930**	**980**	**893**	**814**	**706**	**717**	**731**

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TABLE 29. Total Expenditures in the Natural Sciences, by Source of Funds, 1985-86

Ministry or Agency	Ministerial budget	Transfers from other ministries	Transfers from federal government	From other sources	Total
	($'000)				
Agriculture & Food	2,450	-	-	-	2,450
Energy, Mines & Petroleum Resources	3,555	-	275	-	3,830
Environment	17,495	817	100	268	18,680
Forests	11,041	1,517	613	-	13,191
Health	210	-	35	-	245
Health Care Research Foundation	-	-	-	3,578[1]	3,578
International Trade, Science & Investment	2,105	-	1,600	-	3,705
Lands, Parks & Housing	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	2,087	80	85	114	2,366
Science Council of B.C.	-	3,800[2]	-	-	3,800
Transportation & Highways	175	-	-	-	175
Total	**39,138**	**6,214**	**2,708**	**3,960**	**52,020**

[1] Transferred from the B.C. Lotteries Fund.

[2] Transferred from the Ministry of International Trade, Science & Investment

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TABLE 30. Total Expenditures in the Natural Sciences, by Activity and Performer, 1985-86

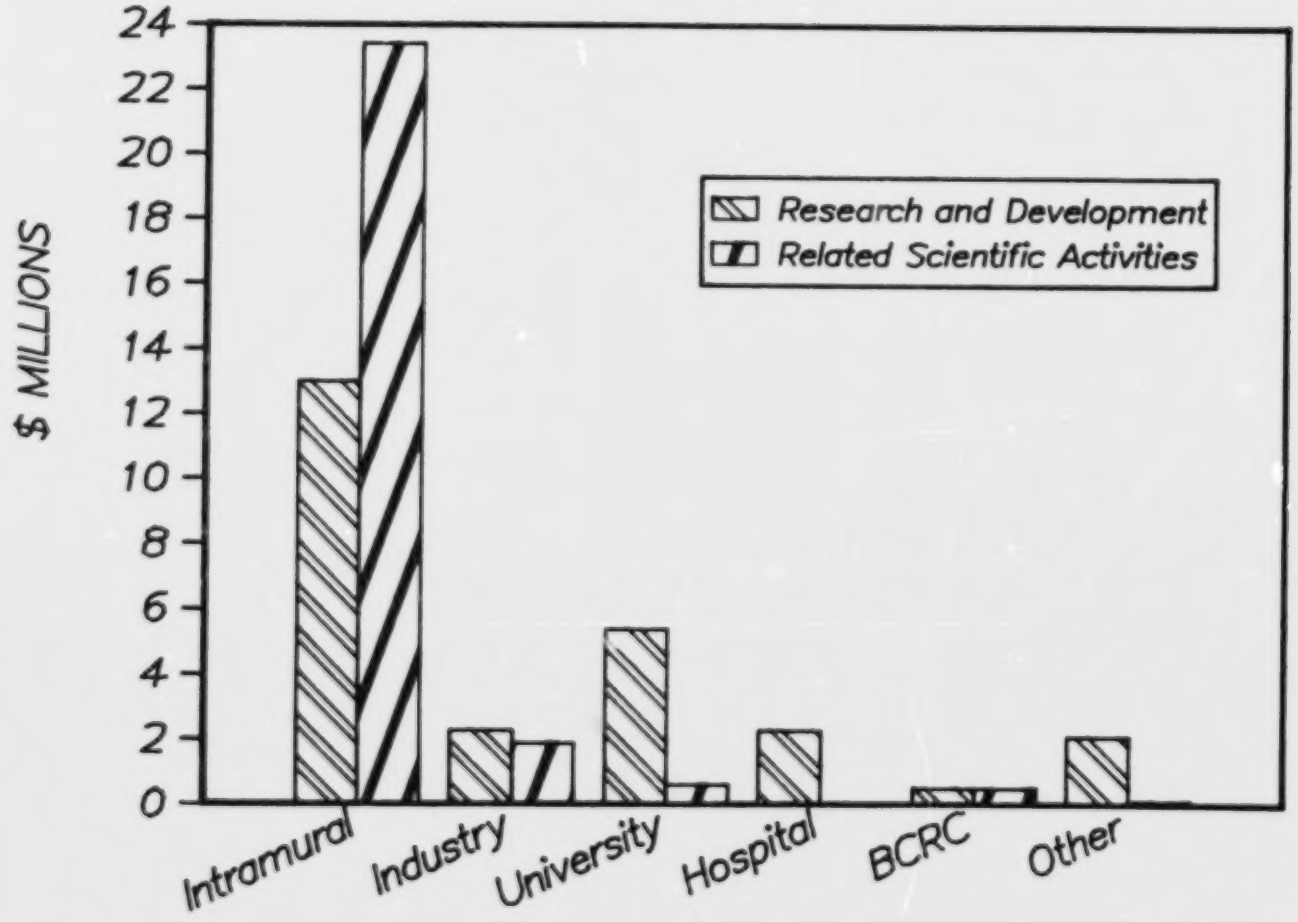
Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($ 000)						
Research & development:							
In-house	12,207	NA	NA	NA	NA	NA	12,207
Contracts	14	599	386	-	15	1,792	2,806
Grants	335	1,441	3,974	2,260	500	303	8,813
Research fellowships	-	214	1,037	-	-	-	1,251
Sub-total	12,556	2,254	5,397	2,260	515	2,095	25,077
Related scientific activities:							
Education support	55	-	-	-	-	-	55
Technical surveys	15,949	1,699	45	-	-	89	17,782
Information services	3,246	67	488	-	-	31	3,832
Special services & studies	1,655	125	17	-	500	25	2,322
Museum services	2,205	-	-	-	-	-	2,205
Sub-total	23,110	1,891	550	-	500	145	26,196
Capital expenditures:							
Research & development	412	NA	NA	NA	NA	NA	412
Related scientific activities	335	NA	NA	NA	NA	NA	335
Sub-total	747	NA	NA	NA	NA	NA	747
Total	**36,413**	**4,145**	**5,947**	**2,260**	**1,015**	**2,240**	**52,020**

(1) Includes only annual funding by Provincial Government

Chart 2.

Government of British Columbia

Total Expenditures on Natural Science Activities, by Sector of Performance and Activity, 1985–86



Government of British Columbia

TABLE 31. Total Expenditures in the Natural Sciences, by Ministry or Agency and Performer, 1985-86

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($ 000)						
Agriculture & Food	2,300	-	150	-	-	-	2,450
Energy, Mines & Petroleum Resources	3,395	404	8	-	-	23	3,830
Environment	16,568	1,697	128	-	10	277	18,680
Forests	10,849	284	316	-	5	1,637	13,191
Health	245	-	-	-	-	-	245
Health Care Research Foundation	179	-	3,179	260	-	-	3,578
International Trade, Science & Investment	41	176	488	2,000	1,000	-	3,705
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	2,366	-	-	-	-	-	2,366
Science Council of B.C.	300	1,479	1,718	-	-	303	3,800
Transportation & Highways	170	5	-	-	-	-	175
Total	**36,413**	**4,145**	**5,947**	**2,260**	**1,015**	**2,240**	**52,020**

(1) Includes only annual funding by Provincial Government

Government of British Columbia

TABLE 32. Current Expenditures in the Natural Sciences, by Ministry or Agency and Activity, 1985-86

Ministry or agency	Research & development	Education support	Technical surveys	Information services	Special services & studies	Museum services	Total
	($ 000)						
Agriculture & Food	150	-	-	2,000	300	-	2,450
Energy, Mines & Petroleum Resources	957	45	1,792	674	300	-	3,764
Environment	2,037	10	15,340	475	559	1	18,382
Forests	11,603	-	650	72	482	-	12,806
Health	225	-	-	-	20	-	245
Health Care Research Foundation ...	3,578	-	-	-	-	-	3,578
International Trade, Science & Investment	2,676	-	-	488	541	-	3,705
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	162	-	2,204	2,366
Science Council of B.C.	3,800	-	-	-	-	-	3,800
Transportation & Highways	55	-	-	-	120	-	175
Total	**25,077**	**55**	**17,782**	**3,832**	**2,322**	**2,205**	**51,273**

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TABLE 33. Current Expenditures on R&D in the Natural Sciences, by Ministry or Agency and Performer, 1985-86

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($'000)						
Agriculture & Food	-	-	150	-	-	-	150
Energy, Mines & Petroleum Resources	925	20	8	-	-	-	953
Environment	1,609	190	71	-	10	157	2,037
Forests	9,268	384	311	-	5	1,635	11,603
Health	225	-	-	-	-	-	225
Health Care Research Foundation	179	-	3,139	260	-	-	3,578
International Trade Science & Investment	-	176	-	2,000	500	-	2,676
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Science Council of B.C.	300	1,479	1,718	-	-	303	3,800
Transportation & Highways	50	5	-	-	-	-	55
**Total ..... **	**12,556**	**2,254**	**5,397**	**2,260**	**515**	**2,095**	**25,077**

(1) Includes only annual funding by Provincial Government

Government of British Columbia

TABLE 34. Detail of Intramural Expenditures in the Natural Sciences, 1985-86

Ministry or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	($ 000)			
Agriculture & Food	1,560	740	-	2,300
Energy, Mines & Petroleum Resources	2,527	802	66	3,395
Environment	10,454	5,816	298	16,568
Forests	7,577	2,889	383	10,849
Health	220	25	-	245
Health Care Research Foundation	-	179[1]	-	179
International Trade, Science & Investment	41	-	-	41
Lands, Parks & Housing	NA	NA	NA	NA
Provincial Secretary & Government Services	1,172	1,194	-	2,366
Science Council of B.C.	209	91	-	300
Transportation & Highways	170	-	-	170
Total	**23,930**	**11,736**	**747**	**36,413**

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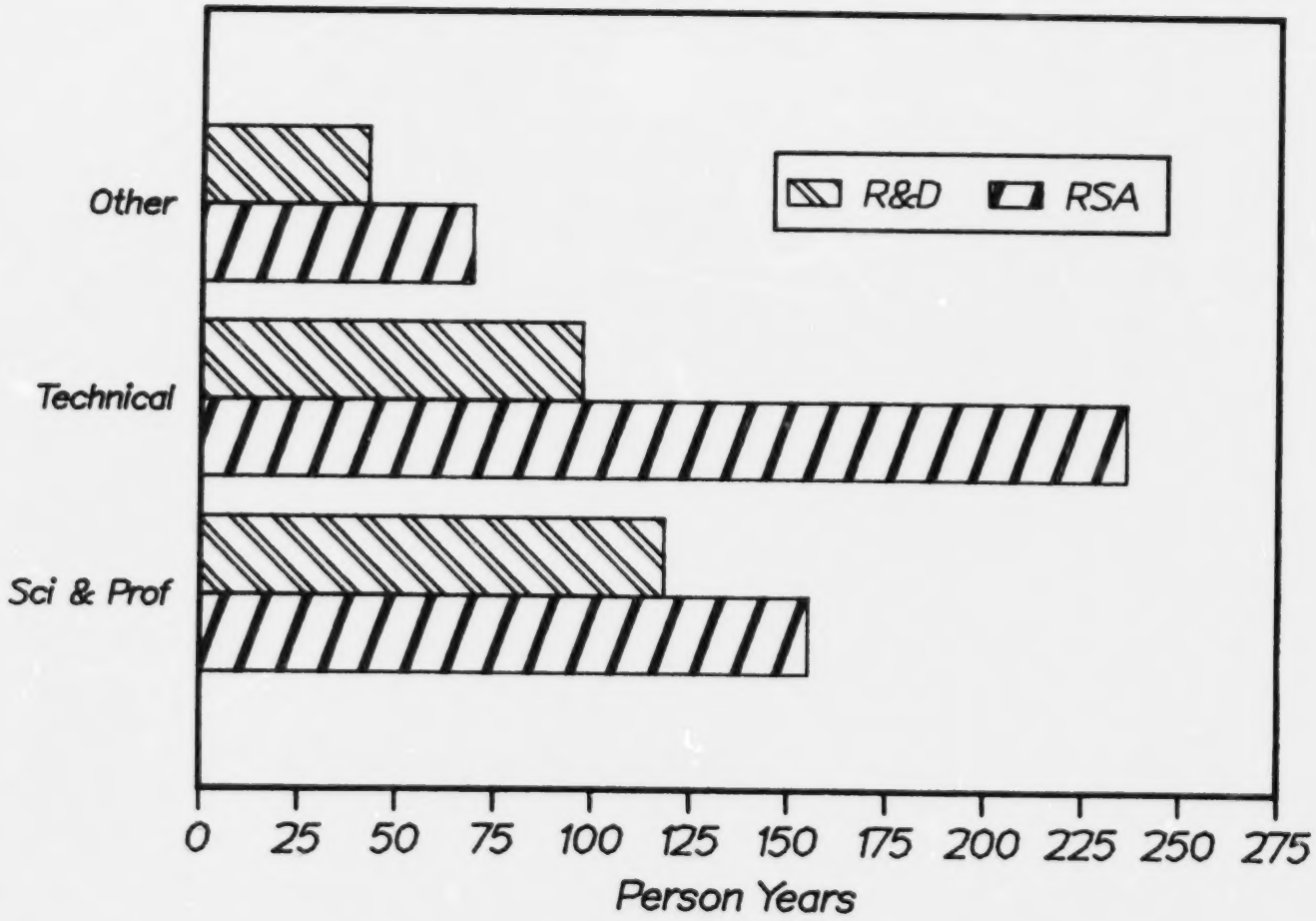
TABLE 35. Ministerial Personnel Engaged in Scientific Activities in the Natural Sciences, by Ministry or Agency, 1985-86

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Agriculture & Food	-	-	-	-	34	8	7	49
Energy, Mines & Petroleum Resources	9	-	1	10	35	12	13	60
Environment	23	20	6	49	67	167	45	279
Forests	79	76	31	186	5	24	-	29
Health	3	-	1	4	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	-	1	-	-	1
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	11	24	4	39
Science Council of B.C.	4	-	3	7	-	-	-	-
Transportation & Highways ...	-	1	-	1	2	1	-	3
**Total ..... **	**118**	**97**	**42**	**257**	**155**	**236**	**69**	**460**

Chart 3.

Government of British Columbia

Ministerial Manpower Engaged In Intramural Natural Science Activities, By Activity and Category, 1985–86



Government of British Columbia

TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1985-86

Ministry or Agency	Advancement of science	Communications	Energy & fuels				
			Conservation	Fossil Fuels	Hydro Electric Energy	Renewable Resources	Other
	($'000)						
Agriculture & Food	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	895	-	-	-
Environment	200	-	-	-	-	-	-
Forests	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-
International Trade, Science & Investment	41	-	-	-	-	-	1,000
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Science Council of B.C.	-	972	-	161	-	22	28
Transportation & Highways	-	-	-	-	-	-	-
Total	**241**	**972**	**-**	**1,056**	**-**	**22**	**1,028**

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TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1985-86 - Continued

Ministry or Agency	Environmental issues				Health
	Air	Land	Water	Other	
	($'000)				
Agriculture & Food	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment	3,660	749	2,732	171	100
Forests	-	-	-	-	-
Health	-	-	-	-	245
Health Care Research Foundation	-	-	-	-	3,578
International Trade, Science & Investment	-	-	-	-	2,000
Lands, Parks & Housing	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**3,660**	**749**	**2,732**	**171**	**5,923**

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TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1985-86 - Continued

Ministry or Agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Agriculture & Food	2,450	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	2,935	-
Environment	712	1,[illegible]	579	-	-	7
Forests	-	-	12,976	-	-	215
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	176	-	488
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	353	[illegible]24	879	565	238	163
Transportation & Highways	-	-	-	-	-	-
Total	**3,515**	**1,429**	**14,434**	**741**	**3,173**	**873**

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TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1985-86 - Concluded

Ministry or Agency	Culture, sport & recreation	Transportation	Wildlife	Other	Total
	($'000)				
Agriculture & Food	-	-	-	-	2,450
Energy, Mines & Petroleum Resources	-	-	-	-	3,820
Environment	-	-	2,532	6,143	18,690
Forests	-	-	-	-	13,191
Health	-	-	-	-	245
Health Care Research Foundation	-	-	-	-	3,578
International Trade, Science & Investment	-	-	-	-	3,705
Lands, Parks & Housing	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	2,366	-	-	-	2,366
Science Council of B.C.	-	85	-	-	3,800
Transportation & Highways	-	175	-	-	175
Total	**2,366**	**260**	**2,532**	**6,143**	**52,020**

Chart 4.

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Objectives of Natural Science Expenditures, 1985–86

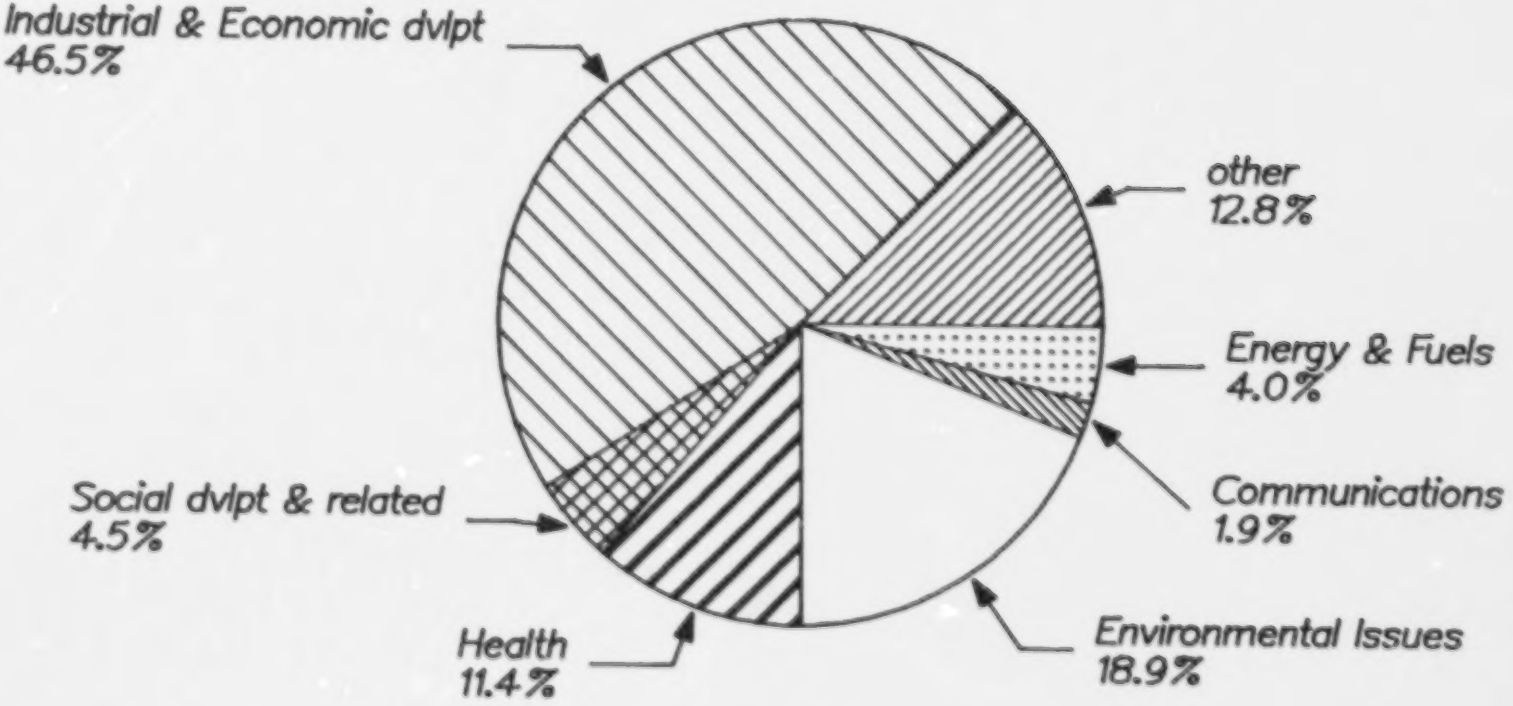

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TABLE 37. Objectives of Expenditures in the Natural Sciences, by Objective and Activity, 1985-86

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	-	241	-	-	241
Communications	77	-	895	-	972
Energy & fuels:					
Conservation	-	-	-	-	-
Fossil Fuels	13	875	148	20	1,056
Renewable Resources	2	-	20	-	22
Other	2	-	526	500	1,028
Environmental Issues:					
Air	186	3,235	47	92	3,660
Land	14	617	18	100	749
Water	220	2,489	-	13	2,732
Other	38	94	39	-	171
Health	404	120	5,399	-	5,923
Industrial & Economic Development:					
Agriculture	48	2,981	475	11	3,515
Fisheries	576	328	446	79	1,429
Forestry	9,644	1,299	2,942	549	14,434
Manufacturing	45	-	696	-	741
Minerals	993	1,545	248	387	3,173
Other	18	-	353	502	873
Social Development:					
Culture Sport & Recreation	-	2,366	-	-	2,366
Transportation	57	120	83	-	260
Other	60	5,147	103	833	6,143
Wildlife	561	1,888	83	-	2,532
Total	**12,968**	**23,445**	**12,521**	**3,086**	**52,020**

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TABLE 38. Total Expenditures in the Natural Sciences, by Activity and Performer, 1986-87(e)

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($'000)						
Research & development:							
In-house	12,338	NA	NA	NA	NA	NA	12,338
Contracts	306	853	122	-	10	2,390	3,681
Grants	450	1,795	4,221	1,880	600	200	9,146
Research fellowships	-	200	1,200	-	-	-	1,400
Sub-total	13,094	2,848	5,543	1,880	610	2,590	26,565
Related scientific activities:							
Education support	60	-	-	-	-	-	60
Technical surveys	17,675	3,742	45	-	-	48	21,510
Information services	3,209	150	820	-	-	31	4,210
Special services & studies	1,714	723	22	-	2,200	13	4,672
Museum services	2,501	-	-	-	-	-	2,501
Sub-total	25,159	4,615	887	-	2,200	92	32,953
Capital expenditures:							
Research & development	912	NA	NA	NA	NA	NA	912
Related scientific activities	552	NA	NA	NA	NA	NA	552
Sub-total	1,464	NA	NA	NA	NA	NA	1,464
Total	**39,717**	**7,463**	**6,430**	**1,880**	**2,810**	**2,682**	**60,982**

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TABLE 39. Total Expenditures in the Natural Sciences, by Ministry or Agency and Performer, 1986-87(*)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	$ (000)						
Agriculture & Food	2,300	500	150	-	-	-	2,950
Energy, Mines & Petroleum Resources	5,330	1,276	82	-	-	13	6,701
Environment	16,640	3,392	116	-	-	245	20,393
Forests	11,611	700	60	-	10	2,226	14,207
Health	450	-	-	-	-	-	450
Health Care Research Foundation	180	-	3,500	200	-	-	3,880
International Trade, Science & Investment	41	495	820	1,690	2,700	-	5,736
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	2,700	-	-	-	-	-	2,700
Science Council of B.C	200	1,500	1,700	-	100	200	3,800
Transportation & Highways	165	-	-	-	-	-	165
Total	**39,717**	**7,463**	**6,430**	**1,880**	**2,810**	**2,682**	**60,982**

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TABLE 40. Current Expenditures in the Natural Sciences, by Ministry or Agency and Activity, 1986-87(e)

Ministry or agency	Research & development	Education support	Technical surveys	Information services	Special services & studies	Museum services	Total
	($'000)						
Agriculture & Food	650	-	-	2,000	300	-	2,950
Energy, Mines & Petroleum Resources	1,294	50	3,706	703	948	-	6,701
Environment	1,824	10	17,771	426	517	1	20,169
Forests	11,997	-	813	61	506	-	13,367
Health	410	-	-	-	40	-	450
Health Care Research Foundation	3,890	-	-	-	-	-	3,890
International Trade, Science & Investment	2,675	-	-	820	2,241	-	5,736
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	200	-	2,500	2,700
Science Council of B.C.	3,890	-	-	-	-	-	3,890
Transportation & Highways	45	-	-	-	120	-	165
Total	**26,565**	**60**	**21,510**	**4,210**	**4,672**	**2,501**	**59,518**

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TABLE 41. Current Expenditures on R&D in the Natural Sciences, by Ministry or Agency and Performer, 1986-87(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($'000)						
Agriculture & Food	-	500	150	-	-	-	650
Energy, Mines & Petroleum Resources	1,212	-	82	-	-	-	1,294
Environment	1,566	33	61	-	-	164	1,824
Forests	9,401	300	50	-	10	2,226	11,987
Health	410	-	-	-	-	-	410
Health Care Research Foundation	180	-	2,500	200	-	-	2,880
International Trade, Science & Investment	-	495	-	1,480	500	-	2,675
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Science Council of B.C.	300	1,500	1,700	-	100	200	3,800
Transportation & Highways	45	-	-	-	-	-	45
Total	**13,094**	**2,848**	**5,543**	**1,880**	**610**	**2,590**	**26,565**

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TABLE 42. Ministerial Personnel Engaged in Scientific Activities in the Natural Sciences, by Ministry or Agency, 1986-87(•)

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Agriculture & Food	-	-	-	-	34	8	7	49
Energy, Mines & Petroleum Resources	14	-	-	14	40	13	10	63
Environment	22	19	6	47	66	169	45	280
Forests	79	75	71	195	5	25	-	30
Health	6	-	1	7	1	-	-	1
Health Care Research Foundation	-	-	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	-	1	-	-	1
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	12	24	6	42
Science Council of B.C.	4	-	4	8	-	-	-	-
Transportation & Highways ...	-	1	-	1	2	1	-	3
Total	**125**	**95**	**42**	**262**	**161**	**240**	**68**	**469**

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TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87

Ministry or Agency	Advancement of science	Communications	Energy & fuels				
			Conservation	Fossil Fuels	Hydro Electric Energy	Renewable Resources	Other
	($'000)						
Agriculture & Food	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	1,510	-	-	-
Environment	20	-	-	-	-	-	-
Forests	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-
International Trade, Science & Investment	1,741	-	-	-	-	-	1,000
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Science Council of B.C.	-	977	27	109	-	27	-
Transportation & Highways	-	-	-	-	-	-	-
Total	**1,941**	**977**	**27**	**1,619**	**-**	**27**	**1,000**

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TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87 - Continued

Ministry or Agency	Environmental issues				Health
	Air	Land	Water	Other	
	($'000)				
Agriculture & Food	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment	3,498	878	2,792	179	100
Forests	-	-	-	-	-
Health	-	-	-	-	450
Health Care Research Foundation	-	-	-	-	3,880
International Trade, Science & Investment	-	-	-	-	1,680
Lands, Parks & Housing	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**3,498**	**878**	**2,792**	**179**	**6,110**

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TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87 - Continued

Ministry or Agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Agriculture & Food	2,950	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	5,191	-
Environment	671	1,105	796	-	30	16
Forests	-	-	13,997	-	-	210
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	495	-	820
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	434	434	868	543	218	109
Transportation & Highways	-	-	-	-	-	-
Total	**4,055**	**1,539**	**15,651**	**1,038**	**5,439**	**1,155**

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TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87 - Concluded

Ministry or Agency	Culture, sport & recreation	Transportation	Wildlife	Other	Total
	($'000)				
Agriculture & Food	..	-	-	-	2,950
Energy, Mines & Petroleum Resources	..	-	-	-	6,701
Environment	-	-	2,350	7,788	20,393
Forests	-	-	-	-	14,207
Health	-	-	-	-	450
Health Care Research Foundation	-	-	-	-	3,880
International Trade, Science & Investment	-	-	-	-	5,736
Lands, Parks & Housing	NA	NA	NA	NA	NA
Provincial Secretary & Government Services	2,700	-	-	-	2,700
Science Council of B.C.	-	54	-	-	3,800
Transportation & Highways	-	165	-	-	165
Total	**2,700**	**219**	**2,350**	**7,788**	**60,982**

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TABLE 44. Objectives of Expenditures in the Natural Sciences, by Objective and Activity, 1986-87

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	-	241	-	1,700	1,941
Communications	77	-	900	-	977
Energy & fuels:					
Conservation	2	-	25	-	27
Fossil Fuels	9	870	100	640	1,619
Renewable Resources	2	-	25	-	27
Other	-	-	500	500	1,000
Environmental Issues:					
Air	191	3,168	47	92	3,498
Land	34	575	28	241	878
Water	166	2,500	10	116	2,792
Other	20	149	10	-	179
Health	590	140	5,380	-	6,110
Industrial & Economic Development:					
Agriculture	44	2,960	1,050	1	4,055
Fisheries	584	338	538	79	1,539
Forestry	10,300	1,411	3,192	748	15,651
Manufacturing	43	-	995	-	1,038
Minerals	1,700	3,198	292	649	5,439
Other	15	-	294	846	1,155
Social Development:					
Culture Sport & Recreation	-	2,700	-	-	2,700
Transportation	49	120	50	-	219
Other	60	5,546	-	2,182	7,788
Wildlife	520	1,795	35	-	2,350
Total	**14,006**	**25,711**	**13,471**	**7,794**	**60,982**

Social Sciences and Humanities

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TABLE 45. Total Expenditures in the Social Sciences and Humanities, by Activity, 1979-80 to 1986-87

Activity	1979-80	1980-81	1981-82	1982-83(e)	1983-84	1984-85r	1985-86r	1986-87(e)
	($'000)							
Research and development:								
Current expenditures:								
In-house	1,194	717	770	772	629	683	408	447
Contracts	87	16	10	10	131	255	265	297
Grants	30	21	20	-	31	80	90	90
Sub-total	1,207	744	780	782	791	1,019	763	834
Capital expenditures	15	20	20	20	2	1	-	4
Related scientific activities:								
Current expenditures	14,247	21,776	21,651	22,411	13,753	13,766	16,460	18,058
Capital expenditures	282	864	671	615	394	560	520	413
Total	15,751	23,366	23,122	23,828	14,920	15,345	17,753	19,309

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TABLE 46. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1979-80 to 1986-87

Ministry or agency	1979-80	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87(e)
	($'000)							
Attorney General	1,015	1,209	1,220	1,269	680	696	487	726
Consumer & Corporate Affairs	469	447	616	582	529	450	429	540
Education	1,727	1,787	1,907	1,837	1,191	900	2,403	2,451
Energy, Mines & Petroleum Resources	238	-	-	-	-	-	-	-
Environment	272	10	65	90	35	13	-	-
Finance	115	1,299	2,052	2,277	-	-	52	60
Forests	22	91	223	142	-	-	-	-
Health	1,674	1,475	1,486	1,755	1,290	1,517	1,715	1,816
Human Resources	NA	NA	NA	NA	250	316	301	593
Industry & Small Business Development	5,107	11,037	8,240	8,240	5,748	5,348	4,539	4,539
International Trade, Science & Investment	NA	NA	NA	NA	NA	NA	123	123
Labour	508	564	1,208	1,276	157	157	205	205
Lands, Parks & Housing	309	270	192	225	322	404	NA	NA
Municipal Affairs	497	539	274	351	389	391	510	706
Postsecondary Education	NA	NA	NA	NA	NA	NA	1,883	2,002
Provincial Secretary & Government Services	3,508	3,978	4,257	4,471	4,232	4,510	4,760	5,214
Tourism	72	181	261	300	323	393	215	215
Transportation & Highways	118	472	801	913	195	250	121	119
Total	**15,751**	**23,366**	**23,122**	**23,828**	**14,920**	**15,345**	**17,753**	**19,309**

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TABLE 47. Total Expenditures in the Social Sciences and Humanities, by Performer, 1979-80 to 1986-87

Performer	1979-80	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87(e)
	($'000)							
Intramural	10,541	13,429	16,262	16,859	11,165	11,481	13,117	14,265
Industry	3,266	8,131	4,419	4,652	1,894	1,822	3,533	3,889
Universities	120	85	69	51	493	548	362	385
Hospitals and health organizations	65	45	49	54	40	40	59	60
B.C. Research Council	-	49	91	106	179	224	11	-
Other	1,759	1,627	2,232	2,106	1,149	1,230	671	710
Total	**15,751**	**23,366**	**23,122**	**23,828**	**14,920**	**15,345**	**17,753**	**19,309**

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TABLE 48. Current Expenditures on R&D in the Social Sciences and Humanities, by Performer, 1979-80 to 1986-87

Performer	1979-80	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87(e)
	($'000)							
Intramural	1,104	722	740	742	680	693	408	467
Industry	56	-	-		8	8	20	38
Universities	70	22	20	-	55	52	50	50
Hospitals and health organizations	-	-	-	-	-	-	-	-
B.C. Research Council	-	-	-	-	-	-	-	-
Other	17	-	-	-	238	264	285	279
Total	**1,207**	**744**	**760**	**742**	**981**	**1,018**	**763**	**834**

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TABLE 49. Current Expenditures on R&D in the Social Sciences and Humanities, by Ministry or Agency, 1979-80 to 1986-87

Ministry or agency	1979-80	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87(e)
	($'000)							
Attorney General	225	157	162	172	125	125	54	73
Consumer & Corporate Affairs	-	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	56	-	-	-	-	-	-	-
Environment	-	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-	-
Health	456	121	172	97	50	90	185	150
Human Resources	NA	NA	NA	NA	45	58	55	108
Industry & Small Business Development	50	20	-	-	25	25	20	20
International Trade, Science & Investment	NA	NA	NA	NA	NA	NA	-	-
Labour	-	-	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-	-	-
Municipal Affairs	-	-	16	22	27	38	-	55
Postsecondary Education	NA	NA	NA	NA	NA	NA	-	-
Provincial Secretary & Government Services	410	450	450	450	699	682	443	429
Tourism	-	-	-	-	-	-	-	-
Transportation & Highways	NA	-	-	-	-	-	6	-
Total	**1,207**	**744**	**760**	**742**	**981**	**1,018**	**763**	**834**

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TABLE 50. Ministerial Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Activity and by Category, 1979-80 to 1986-87

Activity and Category	1979-80	1980-81	1981-82	1982-83(•)	1983-84	1984-85(•)	1985-86	1986-87(•)
	(person-years)							
Research & development:								
Scientific & professional	26	15	20	19	13	13	6	6
Technical	8	6	6	6	6	7	2	3
Other	12	4	3	2	1	1	5	-
Sub-total	46	25	29	27	20	21	13	9
Related scientific activities:								
Scientific & professional	168	192	203	193	135	132	162	165
Technical	85	80	78	77	42	45	48	52
Other	100	118	131	120	87	83	100	100
Sub-total	353	390	412	390	264	260	310	317
Total social science activities:								
Scientific & professional	194	207	223	212	148	145	168	171
Technical	93	86	85	83	48	52	50	55
Other	112	122	134	122	88	84	105	100
Total	**399**	**415**	**442**	**417**	**284**	**281**	**323**	**326**

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TABLE 51. Total Expenditures in the Social Sciences and Humanities, by Sources of Funds, 1985-86

Ministry or agency	Departmental budget	Transfers from other departments	Transfers from federal government	From trust funds	From other sources	Total
	($ 000)					
Attorney General	245	172	70	-	-	487
Consumer & Corporate Affairs	439	-	-	-	-	439
Education	2,403	-	-	-	-	2,403
Finance	52	-	-	-	-	52
Health	1,715	-	-	-	-	1,715
Human Resources	301	-	-	-	-	301
Industry & Small Business Development	3,621	129	789	-	-	4,539
International Trade, Science & Investment	127	-	-	-	-	127
Labour	205	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	510	-	-	-	-	510
Postsecondary Education	1,887	-	-	-	-	1,887
Provincial Secretary & Government Services	3,925	170	59	120	486	4,760
Tourism	215	-	-	-	-	215
Transportation & Highways	121	-	-	-	-	121
Total	**15,768**	**470**	**909**	**120**	**486**	**17,753**

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TABLE 52. Total Expenditures in the Social Sciences and Humanities, by Activity and Performer, 1985-86

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($ 000)						
Research and Development:							
Current Expenditures:							
In-house	408	NA	NA	NA	NA	NA	408
Contracts	-	20	50	-	-	195	265
Grants	-	-	-	-	-	90	90
Sub-Total	408	20	50	-	-	285	763
Capital Expenditures	-	NA	NA	NA	NA	NA	-
Related Scientific Activities:							
Current Expenditures	12,179	3,513	712	59	11	386	16,460
Capital Expenditures	530	NA	NA	NA	NA	NA	530
Total	**13,117**	**3,533**	**362**	**59**	**11**	**671**	**17,753**

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TABLE 53. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1985-86

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	P.C. Research Council(1)	Other	Total
	($'000)						
Attorney General	224	139	-	-	-	24	487
Consumer & Corporate Affairs	479	-	-	-	-	-	479
Education	1,057	1,346	-	-	-	52	2,402
Finance	-	-	-	-	-	29	52
Health	1,350	-	277	59	-	-	1,715
Human Resources	301	-	-	-	-	-	301
Industry & Small Business Development	3,595	909	35	-	-	-	4,539
International Trade, Science & Investment	123	-	-	-	-	-	123
Labour	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	414	96	-	-	-	-	510
Postsecondary Education	1,064	808	-	-	11	-	1,883
Provincial Secretary & Government Services	4,145	5	50	-	-	560	4,760
Tourism	98	117	-	-	-	-	215
Transportation & Highways	2	117	-	-	-	6	121
Total	13,117	3,533	362	59	11	671	17,753

(1) Includes only annual funding by provincial government

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TABLE 54. Current Expenditures in the Social Science and Humanities, by Ministry or Agency and Activity, 1985-86

Ministry or agency	Research & development	Related scientific activities	Total
	($'000)		
Attorney General	54	433	487
Consumer & Corporate Affairs	-	439	439
Education	-	2,403	2,403
Finance	-	52	52
Health	185	1,530	1,715
Human Resources	55	246	301
Industry & Small Business Development	20	4,142	4,162
International Trade, Science & Investment	-	123	123
Labour	-	205	205
Lands, Parks & Housing	NA	NA	NA
Municipal Affairs	-	461	461
Postsecondary Education	-	1,883	1,883
Provincial Secretary & Government Services	443	4,213	4,656
Tourism	-	215	215
Transportation & Highways	6	115	121
Total	**763**	**16,460**	**17,223**

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TABLE 55. Current Expenditures on R&D in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1985-86

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($'000)						
Attorney General	34	20	-	-	-	-	54
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Environment	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Human Resources	55	-	-	-	-	-	55
Health	185	-	-	-	-	-	185
Industry & Small Business Development	20	-	-	-	-	-	20
International Trade, Science & Investment	-	-	-	-	-	-	-
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	114	-	50	-	-	279	443
Tourism	-	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	6	6
Total	**408**	**20**	**50**	**-**	**-**	**285**	**763**

(1) Includes only annual funding by Provincial Government

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TABLE 56. Detail of Intramural Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Expenditures, 1985-86

Ministry or agency	Current expenditures		Capital	Total
	Personnel costs	Other costs		
	($'000)			
Attorney General	279	45	-	324
Consumer & Corporate Affairs	424	15	-	439
Economic Development	-	-	-	-
Education	846	211	-	1,057
Finance	-	-	-	-
Health	1,015	335	-	1,350
Human Resources	246	55	-	301
Industry & Small Business Development	2,427	791	377	3,595
International Trade, Science & Investment	112	11	-	123
Labour	205	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA
Municipal Affairs	308	57	49	414
Postsecondary Education	959	105	-	1,064
Provincial Secretary & Government Services	3,089	952	104	4,145
Tourism	98	-	-	98
Transportation & Highways	2	-	-	2
Total	**10,010**	**2,577**	**530**	**13,117**

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TABLE 57. Ministerial Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Ministry, 1985-86

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Attorney General	1	-	-	1	4	-	2	6
Consumer & Corporate Affairs	-	-	-	-	-	9	5	14
Education	-	-	-	-	20	-	5	25
Environment	-	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-	-
Human Resources	1	1	-	2	1	6	-	7
Health	1	-	5	6	9	2	19	30
Industry & Small Business Development	1	-	-	1	56	4	28	88
International Trade, Science, & Investment	-	-	-	-	3	-	1	4
Labour	-	-	-	-	3	-	4	7
Lands, Parks & Housing Municipal Affairs	-	-	-	-	6	-	2	8
Postsecondary Education	-	-	-	-	18	-	10	28
Provincial Secretary & Government Services	2	1	-	3	39	27	23	89
Tourism	-	-	-	-	3	-	1	4
Transportation & Highways	-	-	-	-	-	-	-	-
Total	**6**	**2**	**5**	**13**	**162**	**48**	**100**	**310**

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TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities Sciences, by Ministry or Agency, 1985-86

Ministry or agency	Advancement of science	Communications	Energy & fuels			
			Conservation	Fossil fuels	Hydro electric energy	Renewable resources
	($'000)					
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Finance	-	-	-	-	-	-
Health	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry and Small Business Development	20	89	-	273	89	36
International Trade, Science & Investment	123	-	-	-	-	-
Labour	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	5	-	-	-	-	-
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**148**	**89**	**-**	**273**	**89**	**36**

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TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1985-86 - Continued

Ministry or agency	Environmental issues				Health
	Air	Land	Water	Other	
	($'000)				
Attorney General	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-
Education	-	-	-	-	-
Finance	-	-	-	-	-
Health	-	-	-	-	1,715
Human Resources	-	-	-	-	-
Industry and Small Business	-	-	-	71	143
International Trade, Science & Investment	-	-	-	-	-
Labour	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-
Postsecondary Education	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-
Tourism	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**-**	**-**	**-**	**71**	**1,858**

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TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency 1985-86 - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Finance	-	-	-	-	-	52
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry and Small Business Development	179	143	725	1,130	405	475
International Trade, Science & Investment	-	-	-	-	-	-
Labour	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**179**	**143**	**725**	**1,130**	**405**	**527**

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TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1985-86 - Concluded

Ministry or Agency	Social development & related areas			Urban regional studies	Other	Transportation	Wildlife	Other	Total
	Culture, sport & recreation	Education	Human resources						
	($'000)								
Attorney General	-	-	-	-	487	-	-	-	487
Consumer & Corporate Affairs	-	-	-	-	439	-	-	-	439
Education	-	2,403	-	-	-	-	-	-	2,403
Finance	-	-	-	-	-	-	-	-	52
Health	-	-	-	-	-	-	-	-	1,715
Human Resources	-	-	301	-	-	-	-	-	301
Industry and Small Business Development	36	71	36	475	-	107	-	36	4,539
International Trade, Science & Investment	-	-	-	-	-	-	-	-	123
Labour	-	-	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	510	-	-	-	-	510
Postsecondary Education	-	1,883	-	-	-	-	-	-	1,883
Provincial Secretary & Government Services	4,750	-	-	5	-	-	-	-	4,760
Tourism	215	-	-	-	-	-	-	-	215
Transportation & Highways	-	-	-	-	-	121	-	-	121
Total	**5,001**	**4,357**	**542**	**990**	**926**	**228**	**-**	**36**	**17,753**

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TABLE 59. Objectives of Expenditures in the Social Sciences and Humanities, by Objective and Activity, 1985-86

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($ 000)				
Advancement of Science	20	128	-	-	148
Communications	-	89	-	-	89
Energy & fuels:					
Fossil fuels	-	179	-	94	273
Hydro electric energy	-	89	-	-	89
Renewable resources	-	36	-	-	36
Other	-	71	-	-	71
Industrial & economic development:					
Agriculture	-	179	-	-	179
Fisheries		143	-	-	143
Forestry	-	536	-	189	725
Manufacturing	-	894	-	236	1,130
Minerals	-	358	-	47	405
Other	-	286	-	241	527
Health	185	1,308	-	365	1,858
Social development & related areas:					
Culture, sport & recreation	114	4,155	329	403	5,001
Education	-	2,192	-	2,165	4,357
Human resources	55	487	-	-	542
Urban regional studies	-	705	-	285	990
Other	34	729	20	143	926
Transportation	-	109	6	113	228
Other	-	36	-	-	36
Total	**408**	**12,709**	**355**	**4,281**	**17,753**

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TABLE 60. Total Expenditures in the Social Sciences and Humanities, by Activity and Performer, 1986-87(•)

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research and Development:							
Current Expenditures:							
In-house	447	NA	NA	NA	NA	NA	447
Contracts	20	28	-	-	-	189	297
Grants	-	-	50	-	-	90	90
Research fellowships	-	-	-	-	-	-	-
Sub-Total	467	28	50	-	-	279	834
Capital Expenditures	4	NA	NA	NA	NA	NA	4
Related Scientific Activities:							
Current Expenditures	13,381	3,851	335	60	-	431	18,058
Capital Expenditures	413	NA	NA	NA	NA	NA	413
Total	**14,265**	**3,889**	**385**	**60**	**-**	**710**	**19,309**

(1) Includes only annual funding by Provincial Government.

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TABLE 61. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1986-87(•)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Attorney General	419	283	-	-	-	24	726
Consumer & Corporate Affairs	540	-	-	-	-	-	540
Education	1,078	1,373	-	-	-	-	2,451
Finance	-	-	-	-	-	60	60
Health	1,426	-	300	60	-	30	1,816
Human Resources	593	-	-	-	-	-	593
Industry & Small Business Development	3,595	909	35	-	-	-	4,539
International Trade, Science & Investment	123	-	-	-	-	-	123
Labour	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	429	277	-	-	-	-	706
Postsecondary Education	1,155	811	-	-	-	36	2,002
Provincial Secretary & Government Services	4,604	-	50	-	-	560	5,214
Tourism	98	117	-	-	-	-	215
Transportation & Highways	-	119	-	-	-	-	119
Total	**14,265**	**3,889**	**385**	**60**	**-**	**710**	**19,309**

(1) Includes only annual funding by Provincial Government.

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TABLE 62. Current Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Activity, 1986-87

Ministry or agency	Research & development	Related scientific activities	Total
	($'000)		
Attorney General	73	653	726
Consumer & Corporate Affairs	-	540	540
Education	-	2,451	2,451
Finance	-	60	60
Health	150	1,666	1,816
Human Resources	108	485	593
Industry & Small Business Development	20	4,142	4,162
International Trade, Science & Investment	-	123	123
Labour	-	205	205
Lands, Parks & Housing	NA	NA	NA
Municipal Affairs	55	611	666
Postsecondary Education	-	2,002	2,002
Provincial Secretary & Government Services	428	4,786	5,214
Tourism	-	215	215
Transportation & Highways	-	119	119
Total	**834**	**18,058**	**18,892**

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TABLE 63. Current Expenditures on R&D in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1986-87(•)

Ministry or Agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Attorney General	53	20	-	-	-	-	73
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Health	150	-	-	-	-	-	150
Health Care Research Foundation	-	-	-	-	-	-	-
Human Resources	108	-	-	-	-	-	108
Industry & Small Business Development	20	-	-	-	-	-	20
International Trade, Science & Investment	-	-	-	-	-	-	-
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	37	18	-	-	-	-	55
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	99	-	50	-	-	279	428
Tourism	-	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-	-
Total	**467**	**38**	**50**	**-**	**-**	**279**	**834**

(1) Includes only annual funding by Provincial Government.

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TABLE 64. Ministerial Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Ministry or Agency, 1986-87(*)

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Attorney General	1	-	-	1	6	-	3	9
Consumer & Corporate Affairs	-	-	-	-	-	11	5	16
Education	-	-	-	-	20	-	5	25
Finance	-	-	-	-	-	-	-	-
Health	2	-	-	2	10	4	18	32
Human Resources	1	2	-	3	1	6	-	7
Industry & Small Business Development	1	-	-	1	56	4	28	88
International Trade, Science & Investment	-	-	-	-	3	-	1	4
Labour	-	-	-	-	3	-	4	7
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	6	-	2	8
Postsecondary Education	-	-	-	-	18	-	10	28
Provincial Secretary & Government Services	1	1	-	2	39	27	23	89
Tourism	-	-	-	-	3	-	1	4
Transportation & Highways	-	-	-	-	-	-	-	-
Total	**6**	**3**	**-**	**9**	**165**	**52**	**100**	**317**

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TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities by Ministry or Agency, 1986-87(•)

Ministry or agency	Advancement of science	Communications	Energy & fuels			
			Conservation	Fossil fuels	Hydro electric energy	Renewable resources
	($'000)					
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Finance	-	-	-	-	-	-
Health	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry & Small Business Development	20	89	-	273	89	36
International Trade, Science & Investment	122	-	-	-	-	-
Labour	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	5	-	-	-	-	-
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**148**	**89**	**-**	**273**	**89**	**36**

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TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1986-87(a) - Continued

Ministry or agency	Environmental Issues				Health
	Air	Land	Water	Other	
	($ 000)				
Attorney General	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-
Education	-	-	-	-	-
Finance	-	-	-	-	-
Health	-	-	-	-	1,816
Health Care Research Foundation	-	-	-	-	-
Human Resources	-	-	-	-	-
Industry and Small Business	-	-	-	71	143
International Trade, Science & Investment	-	-	-	-	-
Labour	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-
Postsecondary Education	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-
Tourism	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**-**	**-**	**-**	**71**	**1,959**

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TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency 1986-87(•) - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Finance	-	-	-	-	-	60
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry and Small Business Development	179	143	725	1,130	405	475
International Trade, Science & Investment	-	-	-	-	-	-
Labour	-	-	-	-	-	-
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**179**	**143**	**725**	**1,130**	**405**	**535**

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TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1986-87(e) - Concluded

Ministry or Agency	Culture, sport & recreation	Education	Human resources	Urban regional studies	Other	Transportation	Wildlife	Other	Total
	($'000)								
Attorney General	-	-	-	-	726	-	-	-	726
Consumer & Corporate Affairs	-	-	-	-	540	-	-	-	540
Education	-	2,451	-	-	-	-	-	-	2,451
Finance	-	-	-	-	-	-	-	-	60
Health	-	-	-	-	-	-	-	-	1,816
Health Care Research Foundation	-	-	-	-	-	-	-	-	-
Human Resources	-	-	593	-	-	-	-	-	593
Industry and Small Business Development	36	71	36	475	-	107	-	36	4,579
International Trade, Science & Investment	-	-	-	-	-	-	-	-	123
Labour	-	-	205	-	-	-	-	-	205
Lands, Parks & Housing	NA	NA	NA	NA	NA	NA	NA	NA	NA
Municipal Affairs	-	-	-	706	-	-	-	-	706
Postsecondary Education	-	2,002	-	-	-	-	-	-	2,002
Provincial Secretary & Government Services	5,204	-	-	5	-	-	-	-	5,214
Tourism	215	-	-	-	-	-	-	-	215
Transportation & Highways	-	-	-	-	-	119	-	-	119
Total	**5,455**	**4,524**	**834**	**1,186**	**1,266**	**226**	**-**	**36**	**19,309**

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TABLE 66. Objective of Expenditures in the Social Sciences and Humanities, by Objective and Activity, 1986-87(•)

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of Science	20	128	-	-	148
Communications	-	89	-	-	89
Energy & fuels:					
Fossil fuels	-	179	-	94	273
Hydro electric energy	-	89	-	-	89
Renewable resources	-	36	-	-	36
Other	-	71	-	-	71
Industrial & economic development:					
Agriculture	-	179	-	-	179
Fisheries	-	143	-	-	143
Forestry	-	536	-	189	725
Manufacturing	-	894	-	236	1,130
Minerals	-	358	-	47	405
Other	-	286	-	249	535
Health	150	1,419	-	390	1,959
Social development & related areas:					
Culture, sport & recreation	99	4,629	329	398	5,455
Education	-	2,304	-	2,220	4,524
Human resources	108	726	-	-	834
Urban regional studies	41	679	18	448	1,186
Other	53	906	20	287	1,266
Transportation	-	107	-	119	226
Other	-	36	-	-	36
Total	**471**	**13,794**	**367**	**4,677**	**19,309**

APPENDIX

DEFINITIONS

This report covers those scientific and technological activities which involve the generation, dissemination and application of new scientific and technological knowledge. The central activity is research and experimental development (R&D). In addition, there are a number of related scientific activities (RSA) which are considered in less detail.

R&D is creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications.

It requires the acquisition of knowledge and not just information. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations.

The major **related scientific activities** are technical surveys, statistical surveys, information services, special services and studies, and museum services. Statistical surveys, information services and museum services are largely self-explanatory.

Technical surveys are activities directed towards the exploration and systematic description of the earth and its natural resources. The activities include the gathering, processing, collating and analyzing of data on natural phenomena except when part of a research project or a museum service. The preparation of maps and survey reports, their printing and cataloguing, are also included.

Special services and studies in the natural sciences are activities directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects. In the social sciences, special services and studies are systematic investigations carried out in order to provide information needed for planning or policy formulation, including feasibility studies, and demonstration projects.

Activities are classified in either the natural sciences or social sciences and humanities. **Natural sciences** consist of disciplines concerned with the understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, environmental, life and physical sciences. **Social sciences and humanities** include all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology and urban and regional studies.

Five **performing sectors** are identified besides the B.C. Research Council. Intramural refers to the provincial ministry or agency performing a scientific activity. Industry is largely private corporations but also includes crown corporations with a commercial function (e.g., power utilities) and industrial research institutes not controlled by another institution. Universities cover post-secondary educational institutions and affiliated teaching and research facilities. Hospitals and health organizations are

health organizations such as the Heart Foundation and hospitals which do not belong to the universities sector. Other includes non-resident performers of scientific activities funded by the provincial government, as well as recipients not covered elsewhere such as the Federal Government, other provincial ministries and individuals.

Expenditures are either current or capital. **Current expenditures** include costs of personnel, transportation and communications, information, professional and special services, rentals, purchased repair and upkeep, utilities, materials and supplies. **Capital expenditures** are those on the construction and acquisition of land, buildings, machinery and equipment. Total expenditures include current plus capital.

THE RESPONDENTS

Agriculture and Food - Coordinator: Mark Aiyadurai (387-5121)

The main identifiable scientific activity of the Ministry are the Demonstration of Agricultural Technology and Economics (D.A.T.E.). The Field Services Branch works on brand inspection and regulatory services.

Attorney General - Coordinator: Sandra Edelman (660-2582)

Units such as the Law Reform Commission, Police Services Branch and the Policy Planning Branch report science expenditures. Approximately 89% of the expenditures are spent on related scientific activites.

Consumer and Corporate Affairs - Coordinator: Kim Thorau (387-9142)

Scientific expenditures were incurred by the Police and Legislation Divison.

Education - Coordinator: Michael Shoop (387-4611)

The units reporting scientific activities are Policy and Planning, Legislation Services, Schools Programs, Schools Management and Special Education. Over one-half of the Ministry s science expenditures are extramural.

Energy, Mines and Petroleum Resources - Coordinator: T. Chatton (387-1368)

Three different divisions are included in this Ministry's science expenditures: Petroleum Resources, Mineral Resources and Energy Resources. Approximately 70% of the Ministry's intramural expenditures are for PSA, primarily technical surveys and information services.

Environment - Coordinator: P.J. Bandy (387-9609)

Dr. Bandy collected statistics from: Environmental Laboratory, Wildlife Management, Fisheries Management, Surveys and Resource Mapping, Waste Management and Water Management. This Ministry is the largest performer of scientific activities in the B.C. Government. Technical surveys is the predominant activity (83% of intramural activities).

Finance - Coordinator: William Mitchell (387-1558)

Scientific expenditures were incurred by Treasury Board Staff.

Forests - Coordinator: Winston Wai (387-8608)

Five different branches report scientific activities in this Ministry: Engineering, Protection, Range Management, Research and

Silviculture. Forests is the second largest performer of scientific activities in the Province. Ninty percent of their activities are Research and Development, most of which are performed by the Ministry itself.

Health - Coordinator: Gerhard Brauer (386-2161)

Scientific activities have been identified in four areas: Policy, Planning and Legislation, Vital Statistics, Hospital Programs and the Library. The majority of this Ministry's science expenditures are in the social sciences. Only the Policy, Planning and Legislation Division reported any activities in the natural sciences.

Since the Vital Statistics Division is involved with the collecting, processing and disseminating of data, it has been conservatively estimated that approximately 1/3 of its budget is devoted to these related scientific activities.

Health Care Research Foundation - Coordinator: May Cairns (438-2752)

The Foundation makes awards available for the support of medical and health care research related to provincial problems.

Human Resources - Coordinator: Mr. Saville (387-6905)

The Research, Evaluation and Statistics Divison performs scientific activities.

Industry and Small Business Development - Coordinator: Oscar Perez de Tagle (387-1502)

The Economic and Statistics Division and Business Industrial Development Division perform development studies on industries, economic forecasting and policy analysis. Of this Ministry's activities 20% are contracted out to the industry sector.

International Trade Science and Investment - Coordinator: T.A. Prentice (387-2034)

The Ministry provides funds to the Science Council of B.C. and the B.C. Research Council. Through the Science and Technology Division it also develops, plans and programs recommendations for science policy and administers the Science and Technology Subagreement to ERDA.

Labour - Coordinator: Johann Schuyff (389-3022)

Applied policy oriented research is performed by the Policy and Planning Branch and the Policy and Planning Womens' Program.

Lands, Parks and Housing - Coordinator: Greg A. Roberts (387-1919)

This Ministry views itself as a non-performer of scientific activities.

Municipal Affairs - Coordinator: Brian Walisser (387-4053)

The Policy and Research Branch and Municipal Development Services Branch carries out and funds studies on a variety of topics impacting on community development.

Post-secondary Education - Coordinator: Scott MacInnis (387-6157)

Four divisions within this Ministry are engaged in RSA: Program Services, Mangement Services, Student Services and University Division.

Provincial Secretary and Government Services - Coordinator: Barbara Efrat (387-5155)

The Natural History Section of the Provincial Museum represents the source of the natural science expenditures of this Ministry. In the social sciences, our report includes the expenditures of Provincial Museum, Recreation and Sports Branch, Heritage Conservation Branch, and Provincial Archives.

Science Council of B.C. - Coordinator: Max Cairns (439-2752)

The Council provides awards for research projects, mainly to researchers in the universities and industry. The Graduate Research Engineering and Technology (GREAT) Awards, the Industrial Post-doctoral Fellowships (IPDF) and the Assistance Grants for Applied Research (AGAR) programs are administered by the Science Council. The Research Secretariat of B.C. provides administrative services to the Science Council and the Health Care Research Foundation.

Tourism - Coordinator: Evelyn Greene (387-1428)

The Management Services Division reports expenditures for RSA.

Transportation and Highways - Coordinator: John Hvozdanski (387-7709)

The Transport Policy Analysis Branch coordinates and disseminates information on transport policy, authorizes extramural activities and conducts internal studies. Geotechnical and Materials Engineers Branch perform mostly special services and studies.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

1. Population and Income

Province	Population January/86(1)		Personal income per capita 1984(2)		Provincial Gross Domestic Product per capita 1984(3)	
	(000)	Rank	($)	Rank	($)	Rank
Newfoundland	581	9	9,795	10	10,318	9
Prince Edward Island	128	10	10,310	9	9,601	10
Nova Scotia	883	7	11,497	7	11,828	7
New Brunswick	720	8	10,734	8	11,214	8
Québec	6,610	2	13,497	5	14,770	6
Ontario	9,140	1	15,841	1	18,352	2
Manitoba	1,075	5	13,747	4	15,475	5
Saskatchewan	1,020	6	13,006	6	17,095	4
Alberta	2,373	4	15,776	2	25,287	1
British Columbia	2,898	3	14,778	3	17,244	3
**Canada (4)..... **	**25,501**		**14,412**		**17,385**	

(1) **Canadian Statistical Review,** Statistics Canada, Catalogue No. 11-003E, July 1986.
(2) **National Income and Expenditure Accounts, 1970-1984,** Statistics Canada, Catalogue No. 13-201.
(3) **Provincial Economic Accounts, Experimental Data, 1969-1984,** Statistics Canada, Catalogue No. 13-213.
(4) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

2. Universities

Province	Graduate students per ten thousand population (15 years and over) 1984-85(1)	Rank	Sponsored research in universities per capita, 1984-85(2) ($)	Rank
Newfoundland	15	7	25	8
Prince Edward Island	-	10	5	10
Nova Scotia	27	4	30	5
New Brunswick	17	9	15	9
Québec	34	1	31	4
Ontario	30	2	36	2
Manitoba	30	3	33	3
Saskatchewan	15	9	30	6
Alberta	27	5	39	1
British Columbia	21	6	26	7
Canada	**28**		**32**	

(1) Full-time enrolment for graduate degrees, per ten thousand population (15 years and over) **Universities Enrolment and Degrees, 1984-85,** Statistics Canada, Catalogue No. 81-204, and "Postcensal Estimate of Population by Sex and Age for Canada and the Provinces", June 1984, Population Estimates Section, Demography Division, Statistics Canada.

(2) **Financial Statistics of Universities and Colleges, 1984-85,** Canadian Association of University Business Officers.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

3. Industry

Province	Value added by manufacturing activity per capita, 1983(1)		Current intramural industrial R&D expenditures per employee in primary and secondary industry, 1984(2)	
	($)	Rank	($)	Rank
Newfoundland	863	9	17	10
Prince Edward Island	761	10	91	8
Nova Scotia	1,517	7	107	7
New Brunswick	1,522	6	53	9
Québec	3,247	2	648	2
Ontario	4,746	1	955	1
Manitoba	1,871	4	168	6
Saskatchewan	864	8	197	5
Alberta	1,711	5	553	3
British Columbia	2,389	3	423	4
Canada(3)	**3,207**		**676**	

(1) **Manufacturing Industries of Canada; National and Provincial Areas, 1983**, Statistics Canada, Catalogue No. 31-203.

(2) Results of 1984 Industrial R&D survey, Science and Technology Statistics Section, Statistics Canada and **The Labour Force, June, 1986**, Statistics Canada, Catalogue No. 71-001.

(3) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

4. Federal Government

Province	Expenditures on intramural natural science activities 1984-85(1)	Federal personnel 1984-85(1)	Contracts awarded by the Science Procurement Sector, Department of Supply and Services, 1985-86(2)	
	($'000,000)	(Person-years)	Number	($'000,000)
Newfoundland	43	355	135	6
Prince Edward Island	7	112	24	1
Nova Scotia	129	1,744	355	11
New Brunswick	23	309	134	4
Québec	200(3)	1,934(3)	399	24
Ontario	288(4)	4,481(4)	1,207	105
Ottawa-Hull	704	10,465	...	...
Manitoba	132	1,585	125	6
Saskatchewan	45	695	85	11
Alberta	93	1,439	228	18
British Columbia	122	1,692	788	39
Canada(5)	**1,787**	**24,820**	**3,509**	**226**

(1) "Federal Scientific Establishments", Science and Technology Statistics Section, Statistics Canada.
(2) **Research and Development Bulletin**, April 1986, Supply and Services.
(3) Excluding Hull.
(4) Excluding Ottawa.
(5) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

5. Provincial Research Organizations

Province	Total expenditures on science and technology, 1985(1)	
	($'000)	Rank
Nova Scotia	6,242	7
New Brunswick	7,024	6
Québec	33,403	2
Ontario	27,825	3
Manitoba	6,136	8
Saskatchewan	15,327	4
Alberta	48,659	1
British Columbia	8,389	5
Total	**153,115**	

(1) "The Provincial Research Organizations, 1985", **Science Statistics,** Vol. 10, No. 9, Statistics Canada, Catalogue No. 88-001.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

6. Gross Domestic Expenditures on Natural Sciences and Engineering R&D in Canada, by Performing Sector, by Region, 1984(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors
	($000,000)							
Newfoundland	36	1	-	37	5	18	-	60
Prince Edward Island	7	-	-	7	1	1	-	9
Nova Scotia	95	1	3	99	15	38	1	153
New Brunswick	18	2	2	22	13	15	1	51
Québec	176	28	12	210	647	236	22	1,121
Ontario	703	43	15	761	1,687	398	35	2,881
Manitoba	112	1	3	116	30	55	5	206
Saskatchewan	37	3	4	44	41	36	-	121
Alberta	69	17	25	111	232	136	1	480
British Columbia	84	11	3	98	170	92	5	365
**Canada(2) ..... **	**1,337**	**107**	**67**	**1,511**	**2,859**	**1,025**	**70**	**5,465**

(1) **"Estimates of Canadian R&D Expenditures, by Region 1981-1984"**, Science and Technology Statistics Section, Statistics Canada.
(2) Includes the Yukon and Northwest Territories.
Note: Totals may not add due to rounding.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

7. Gross Domestic Expenditures on Natural Sciences and Engineering R&D in Canada, by Funding Sector, by Region, 1984(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors (3)
	($000,000)							
Newfoundland	46	2	-	48	5	4	3	60
Prince Edward Island	7	-	-	7	1	1	-	9
Nova Scotia	119	3	-	122	12	13	3	153
New Brunswick	29	3	-	32	10	6	2	51
Québec	381	92	1	474	518	45	36	1,121
Ontario	1,098	92	-	1,190	1,362	96	76	2,881
Manitoba	139	7	-	146	26	21	10	206
Saskatchewan	62	11	-	73	33	10	2	121
Alberta	128	92	-	220	188	52	9	480
British Columbia	157	19	-	176	135	22	16	365
Canada(2)	**2,158**	**321**	**1**	**2,480**	**2,305**	**270**	**157**	**5,465**

(1) **"Estimates of Canadian R&D Expenditures, by Region, 1981-1984"**, Science and Technology Statistics Section, Statistics Canada.
(2) Includes the Yukon and Northwest Territories.
(3) Includes Foreign sources of funds.
Note: Totals may not add due to rounding.

Provincial Coordinators

Seven provincial governments sponsored the Science and Technology Statistics Section in the collection of similar scientific activity data. Below is a list of coordinators for the various sponsoring departments/ministries.

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The Science and Technology Statistics Program is one of the major responsibilities of the Science, Technology and Capital Stock Division. The basic mission of the Section is to assure the availability of pertinent statistical information in support of the development of science and technology in Canada.

Activities of the Section are described in a semi-annual report distributed free of charge entitled **Activities of the Science and Technology Statistics Program.** This report is published in June and December each year.

Information is disseminated in a series of reports including monthly service bulletins, occasional background papers and annual reports which are described below.

Catalogue

88-001	Science Statistics
88-201	Science and Technology Indicators, 1985
88-202	Industrial Research and Development Statistics, 1984
88-203	Resources for Research and Development in Canada, 1984
88-204E	Federal Scientific Activities, 1986-87
88-205E	Directory of Industrial Research and Development Facilities in Canada, 1986
88-206E	Directory of Federal Government Scientific and Technological Establishments, 1986
88-501E	An Indicator of Excellence in Canadian Science
88-502E	International Payments and Receipts for Technology
88-503E	Technology and Commodity Trade
88-504E	Patents as Indicators of Invention
88-505E	Industrial Productivity and Research and Development Indicators
88-506E	A Framework for Measuring Research and Development Expenditures in Canada
88-507E	An Indicator of Excellence in Canadian Science:Summary Report

Uncatalogued

Estimates of Canadian Research and Development Expenditures, by Region, 1979-1984

Estimation of R&D Expenditures in the Higher Education Sector, 1984-85

Federal Government Expenditures on Activities in the Natural Sciences and Engineering, 1963-64 to 1986-87

Federal Government Expenditures on Activities in the Social Sciences and Humanitites, 1977-78 to 1986-87

Federal Personnel Engaged in Scientific Activities, 1977-78 to 1986-87